

*New*  
PRODUCTS  
APPLICATIONS  
PROCESSES

# CHEMICAL EQUIPMENT PREVIEW



Over 28,000 Copies

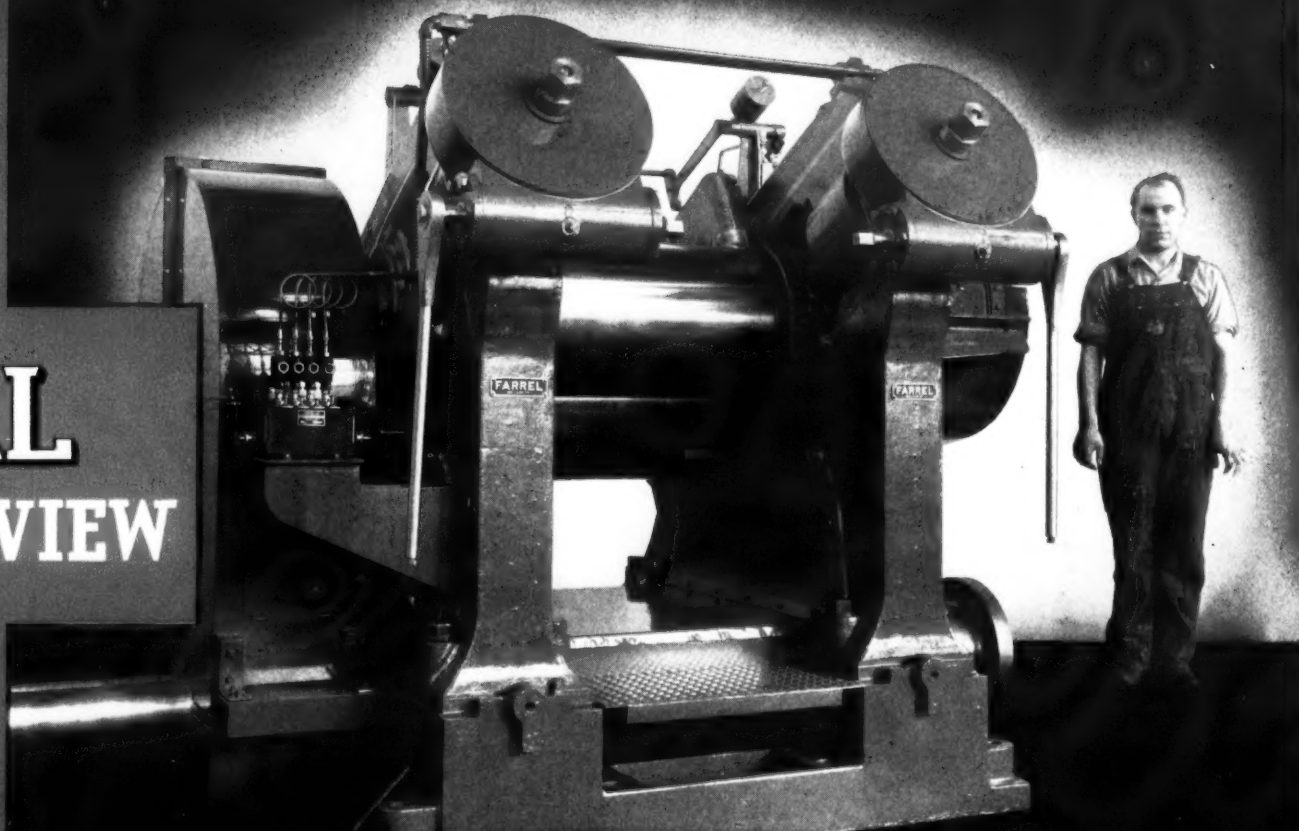


SEPTEMBER

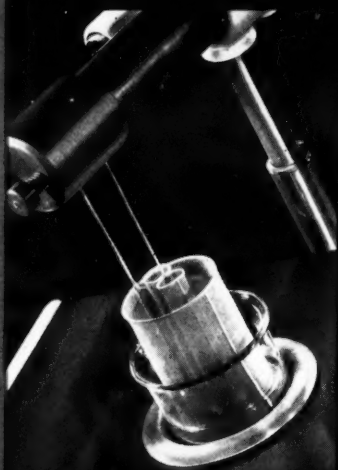
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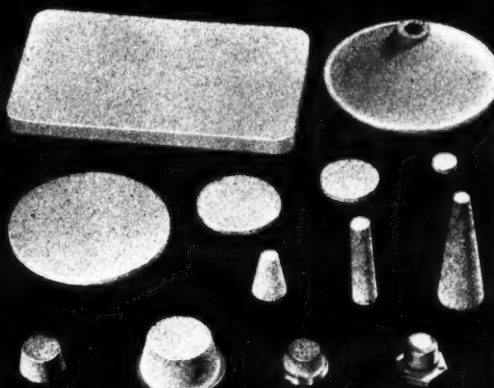
Latest Developments in Equipment  
Materials and Products for Engineers  
Chemists and Executives in  
Food Manufacturing Industries



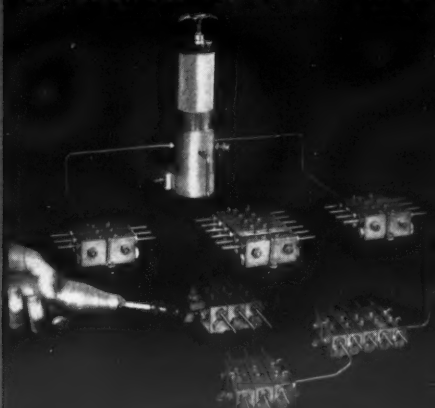
Reclaiming rubber . . . tilted refiner sharply increases roll speed, lowers stock temperature.



Electrolytic analyzer shows  
35% to 50% savings in time.



Porous metal filters remove small particles,  
control flow rates . . . many shapes available.



Positive forced feed lubrication . . . many



Rubber tires conduct electricity.



Extraction and decantation unit . . . "sic



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or "TIME OUT?"**

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*against*  
**PLANT SHUTDOWNS**  
*in your*  
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*with*  
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- Blending fatty acid and oil for paints and driers.
- Automatic dilution of caustic for the rubber, rayon and textile industries.
- Automatic proportioning and blending of soap, silicate, fatty acid, caustic soda, light oils and perfume in the manufacture of soap.
- Acid treatment of oils in the manufacture of cosmetics and mineral oils.

## DIRECTORY....

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## CHEMICAL EQUIPMENT PREVIEW

VOLUME 4, NUMBER 5

SEPTEMBER-OCTOBER, 1941

### How to Use This Issue

If you are particularly interested in some specific type of product . . . turn first to the Directory of All Products in This Issue. You'll find it on page 2. Here is an alphabetical listing of every product . . . whether it is featured editorially or in the advertising

Then, to make sure you keep abreast of the latest developments . . . perhaps in something you have heard nothing about . . . you'll want to browse through the rest of the pages.

The Editors have searched far and wide to bring you this most comprehensive Preview of all kinds of product developments of help to you in your chemical process manufacturing work. Thus, they save your time . . . enable you to keep posted with the minimum of effort. And when you find an item that interests you particularly . . . and you'd like more information on it . . . here too the publishers will help you. Just turn to the handy information request slip . . . between pages 24 and 25. All you need do is check the item that interests you, fill in your name and address and send this slip to the publishers. The information you desire will come to you promptly.

And don't forget . . . when you have finished with this issue, pass it on to your associates. They'll be interested too.

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### If You Wish to Receive This Magazine Regularly

Subscriptions to this magazine are NOT SOLD.

But its circulation is restricted to men who are actively engaged, in responsible capacities, in chemical process manufacturing plants.

You can receive it free of charge . . . simply by sending your request to the publishers and telling them of your connection in your chemical process plant . . . if you are a chemist, engineer or executive.

Between pages 24 and 25 of this issue you will find a convenient request form which you can use. Fill in your name and company connection and send this to the publishers. Your request subscription will start with the next issue. There is no charge or obligation for this service.



### New! Automatic!

#### MICROMAX TEMPERATURE INDICATOR

For checking the temperatures of various thermocouples, in any desired order and with the "human equation" largely eliminated, we recommend the Model S Micromax Indicator. The equipment is particularly useful where a large number of couple temperatures must be logged by a process operator.

This instrument is our motor-driven potentiometer pyrometer, with recording omitted and provision added for checking at least 50 couples. It has automatic reference-junction compensator, manual standardizer. For further details, see Catalog N-33A(5).



When inquiring specify CEP3192 — see information request blank, pgs. 24-25

# ANNOUNCING

## TEXROPE "SUPER-7"

All Standard Sizes  
1/2 HP to 2,000 HP

**50% STRONGER CORDS...**  
from sensational new Flexon process!

**20% MORE CORDS...**  
that mean extra pulling power in every Texrope Super-7!

**EXTRA PROTECTION**  
... against dirt, grit and moisture ... with exclusive duplex-sealed cover!

**INCREASED LIFE ...**  
because cords float on amazing cool-running cushion rubber that absorbs shock!

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MILWAUKEE WISCONSIN

Write for Bulletin B-6190, complete facts about Texrope Super-7! It's better and costs no more!

When inquiring specify CEP3193 — see information request blank, pgs. 24-25

## NEW SOLUTIONS OF PLANT PROBLEMS

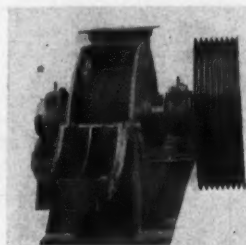
### Scrap Rubber Reduced to 7-16" Size

Heavy-duty model, 10" cutter withstands severe thrust loads in reducing process

**Problem**—In a manufacturing process problems arose in cutting matted strips of flash discharged rubber produced from moulding running board strips, refrigerator moulding and other rubber products. Available equipment was not satisfactory for cutting this scrap rubber to pass through a 7/16" screen, preparatory to further reduction to 30 mesh ground rubber.

**Solution**—Equipment illustrated was specially designed for this problem as existing equipment was not sufficiently rugged to withstand the severe thrust loads of the process. The new, heavy-duty unit is designed with a 4.875" steel shaft mounted on heavy-duty anti-friction bearings. Fabricated, unbreakable steel frame has hinged sides. Rotor is cast steel and protection to cutting knives is provided by a shear pin pulley.

**Results**—Machine produces approximately 800 to 1,000 pounds of 7/16" rubber scrap properly cut so that it eases the load on finer grinding units used later in the process. Rugged machine provides continuous operation without expensive shutdowns, as was frequent with existing lighter equipment.



10" RUBBER CUTTER stands severe thrust loads

SPROUT, WALDRON & CO., Dept. CEP, 181 Sherman St., Muncy, Pa.

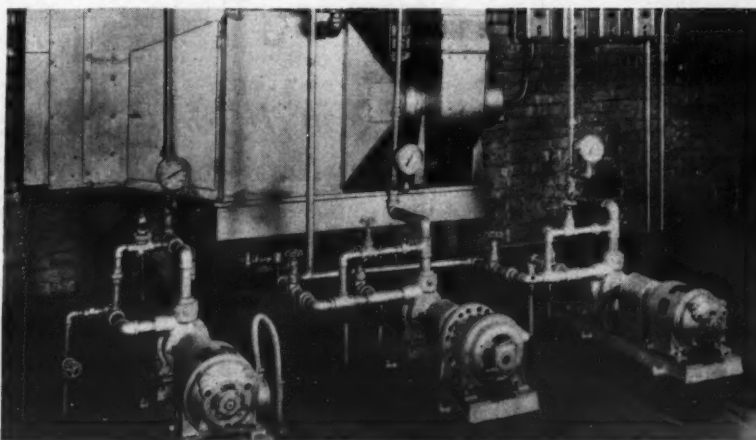
When inquiring specify CEP3194 — see information request blank, pgs. 24-25

### Uniform Vacuum Maintained . . . No Maintenance Cost in Over 5 Years

Pharmaceutical plant overcomes difficulty maintaining vacuum at laboratory benches.

**Problem**—Pharmaceutical manufacturer was experiencing difficulty in a dry vacuum pump used to maintain a vacuum at laboratory benches. Benches operated in the production of certain chemicals, and for research work.

**Solution**—Three turbine-type pumps were installed (see illustration). One pump operates against a pressure of approximately seventy-five pounds and two against a



TURBINE-TYPE PUMPS maintain uniform vacuum

pressure of about sixty-five pounds. All three discharge lines pass through evactors, creating a constant vacuum of approximately 28 1/2".

**Results**—These three turbine-type pumps have now been in operation over five years. The required vacuum has been uniformly maintained at all times and the pumps have required no maintenance whatsoever.

MICRO-WESTCO, INC., Dept. CEP, 57005 State St., Bettendorf, Iowa.

When inquiring specify CEP3195 — see information request blank, pgs. 24-25

### By-Product HCl Gases Recovered From Chlorination Processes

Compact absorption plant converts nuisance gas to marketable product

**Problem**—Production of chlorinated materials, particularly chlorinated hydrocarbons, is frequently limited by inadequate facilities for the absorption of the by-product hydrogen chloride gas. In many cases, production of existing chlorinated equipment could be greatly increased were it not for the "bottleneck" of absorption. Lack of space for additional equipment is also a problem.

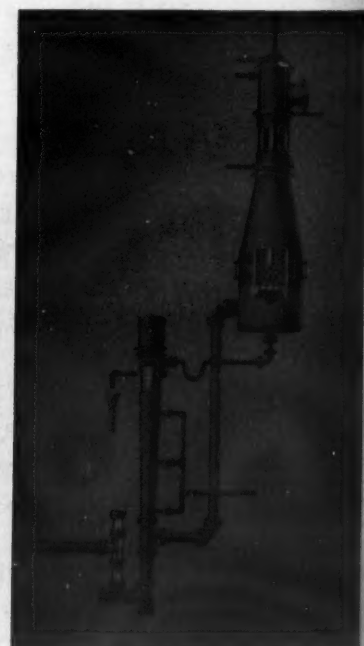
**Solution**—Several types of simple, compact absorption plants have been developed. These absorbers are entirely acid-proof, constructed with tantalum heat transfer surfaces and using either tantalum or equally inert materials wherever gas or acid comes into contact with equipment. Tight, compact design permits indoor operation. Operation requires occasional adjustment of 2 valves. Installation involves only construction of simple framework and connection to gas and water lines.

**Results**—Type KA-300 unit, illustrated, occupies less than 38 sq. ft. of floor space and will absorb up to 300 pounds of HCl per hour as 50% gas, while producing 22.5 deg. Be. acid. Efficiency varies with plant conditions and operators, but unit now installed is converting 98% of HCl gas into 18 deg. to 24 deg. Be. hydrochloric acid which can be sold on a ready market or used in own plant.

FANSTEEL METALLURGICAL CORP., Dept. CEP, North Chicago, Ill.

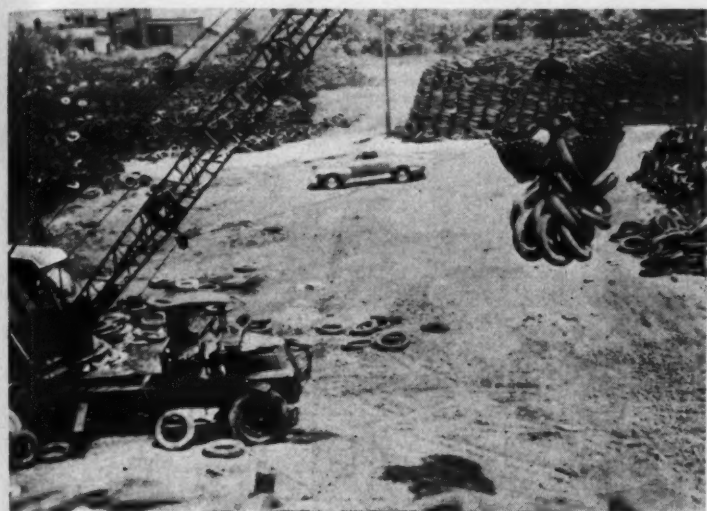
When inquiring specify CEP3196 — see information request blank, pgs. 24-25

ABSORPTION PLANT . . . converts nuisance gas





## NEW APPLICATIONS



REHANDLING BUCKETS on trucks move old tires

### Truck Crane Moves Old Rubber Tires

*Rehandling bucket on truck crane speeds up handling of reclaimed rubber tires*

**Problem**—Large eastern chemical company using old rubber tires in a chemical reclamation process had the problem of handling and conveying to the plant a sea of tires extending over many acres, 20 to 30 feet deep, and containing over 40 million pounds.

**Solution**—Due to scattered stacking of old tires, a mobile unit was necessary to accomplish the daily moving and conveying job. Rehandling buckets were mounted on truck cranes (see illustration) for the purpose. As tires had accumulated over a long period of time, use of the bucket over the truck crane involved the piling of the tires and reshuffling of them in the yards, in addition to final removal and loading for movement into the plant.

**Results**—Much faster speed was attained in handling these tires and the mobility of the truck and rehandling buckets provided the right answer for the job, where a fixed conveying system would not suffice. Low original costs were important factor in use of rehandling buckets.

OWEN BUCKET CO., Dept. CEP, Breakwater Ave., Cleveland, Ohio.

*When inquiring specify CEP3197 — see information request blank, pgs. 24-25*

### Three-Arm Governors on Turbines

*49-hour continuous newsprint paper run without a wet end break*

**Problem**—The first paper mill to utilize Southern pine 100% in the manufacture of newsprint was faced with load variation problems in its paper manufacturing process. The combination of grinder and paper machine load was subject to load variations as large as 3000 kw. As the independent units of the paper machine are linked only by the weak web of paper in process, any minute variation in system frequency or direct-current generator voltage would affect section speeds differently, and so would cause breaks in the paper.

**Solution**—General Electric turbines in the plant were equipped with three-arm governors, capable of holding speeds with extremely narrow limits under the worst swings of load. To prevent even this small variation from



TURBINE GOVERNORS  
smooth load variations

interfering with the successful operation of the machine, voltage and speed regulators were carefully coordinated in the drive.

**Results**—An excellent record was set with a 49-hour continuous paper run without a wet end break or a snap-off at the calendar stack.

GENERAL ELECTRIC CO., Dept. CEP, 1 River Rd., Schenectady, N. Y.

*When inquiring specify CEP3198 — see information request blank, pgs. 24-25*

### Have You a "New Solution"?

If you have recently solved a problem in chemical process manufacturing, through a new application or new use of your regular products. The Editors invite you to submit the facts for publication in this department . . . in over 26,000 copies.

In submitting your "solution" please be sure to give the pertinent facts of (a) the problem, (b) just what was done and (c) what the results were. Send to

The Editors, CHEMICAL EQUIPMENT PREVIEW  
737 N. Michigan Ave. Chicago

### Waterproof, Wood Sole Safety Shoe

*Lightweight shoes with soft, pliable uppers to provide snug ankle fit*

**Uses** — Especially designed for use in protecting women working on damp, slippery floors and rough surfaces.

**Features** — Lightweight maple soles are cut with proper rock for walking ease. Soft, pliable uppers fit snugly at the ankle. Sole and upper are fastened securely to make this safety shoe waterproof. Interiors are smoothly finished. Wood soles disperse perspiration rapidly.

**Description**—Sizes range from 3 to 10, inclusive—no half sizes available. Color of leather is rich russet. Shoes are also available with composition safety toe that will resist pressures up to 700 lbs.

F. J. STAHMER SHOE CO., Dept. CEP, Davenport, Iowa.

*When inquiring specify CEP3199 — see information request blank, pgs. 24-25*



SAFETY SHOE . . . wood sole, waterproof

CONVEY-ELEVATE . . .

## in 1 REDLER CONVEYOR-ELEVATOR

for

SAFETY

COMPACTNESS

LOW COST

DUST-TIGHT

SEALED

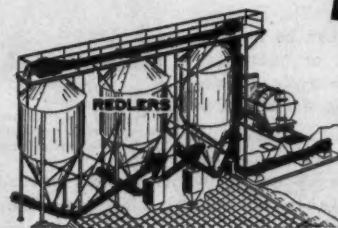
SELF-FEEDING

REDUCES  
BREAKAGE

### Z-TYPE REDLER

The many available shapes of REDLERS assure an economical solution to almost any bulk handling job in processing plants. One REDLER can frequently do the entire handling job.

For SAFE handling and PRODUCT PROTECTION, be sure to learn about patented EN MASSE REDLER conveying-elevating. Be sure you have this valuable DATA BOOK NO. 140.



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installation

Stephens-Adamson Mfg. Co.

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OVER 12,000  
REDLER CONVEYOR-ELEVATORS  
NOW IN OPERATION

*When inquiring specify CEP3200 — see information request blank, pgs. 24-25*

## THE *Only* STEAM TRAP WITH ALL 4 FEATURES

• No other steam trap has all the advantages of Anderson Super-Silvertop—easier installation, greater accessibility, increased capacity and long, trouble-free service life. Choice of elbow or straight-in-line connection comes from two inlet connections—one at the top, one at the side.

This is honest-to-goodness simplified piping. No extra fittings to buy and install, a saving of as much as one hour per trap whether it's elbow or straight through. Besides, trap can be inspected, without disturbing pipe connections.

Inverted Bucket is guided, controlled to vertical motion only and this permits a larger bucket. Larger bucket and longer lever open a larger valve for increased condensate capacity for any given size of trap body.

In Anderson Super-Silvertops, all passages are drilled, not cored—this insures full-sized passages in every trap. Gasket is a full gasket—no split gasket that might become a source of steam leaks. These facts are the reasons for long, trouble-free service life.

Get all the facts about Super-Silvertop—write today for your free copy of the book—"How To Choose A Steam Trap"—it will help you.

**THE V. D. ANDERSON CO.**  
1954 West 96th Street • Cleveland, Ohio

When inquiring specify CEP3201—see information request blank, pgs. 24-25



- 1  
Choice of Elbow  
or Straight-in-  
Line Connections
- 2  
Guided Inverted  
Bucket
- 3  
Full-Sized Drilled  
Passages
- 4  
NO Split Gasket

## Hackney AGITATOR DRUMS

### CONTENTS EFFECTIVELY AGITATED

**H**ACKNEY DRUMS, equipped with Hackney "A" Type agitators, have made outstanding performance records in the field. The Hackney "A" Type Agitator can be installed in removable head or tight head containers, and effectively agitates the contents, even to the bottom of the chime.

For removable head barrels or drums, the "A" Type Agitator can be permanently installed—or made removable to facilitate interchangeability and to make cleaning easy. The parts are made of heavy stock, securely welded together to give rigidity and long life. This agitator can be "started"—even with heavy pigments.

Hackney Drums last longer, assure full protection—and they're handled easier and faster. If desired, other commercial agitators can be installed in Hackney drums. Write today for full details.



• Phantom view showing Removable Head Drum with "A" Type Agitator installed.

## PRESSED STEEL TANK COMPANY

1397 Vanderbilt Concourse Bldg. N. Y. • 208 S. LaSalle St. Rm. 1598  
Chicago • 694 Roosevelt Bldg. Los Angeles • 1493 So. 66th St. Milwaukee

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

When inquiring specify CEP3202—see information request blank, pgs. 24-25

## EQUIPMENT FOR PRODUCTION

### Accelerated Fading Test Unit

*Radiation closely approximates sunlight; humidity control; 24-hr. operation without attention*

**Uses**—For accelerated fading tests to provide true standard for comparing color fastness of dyes, dyed textiles, paper, plastics and other products.

**Features**—Radiation closely approximates that of natural sunlight. Unit has humidity control, adjustable to desired saturation degree. Will operate 24 hours without attention, and gives rapid and reproducible comparison of color fastness. To give still closer approximation of natural sunlight, the arc is enclosed in cylinder of Corex "D" glass which filters out most wave lengths not present in sunlight. Uniformity of test conditions is maintained by automatic control of radiation intensity and humidity.

**Description**—Source of radiation for unit is flame type carbon arc. Three pairs of carbons are used in the arc lamp but the arc burns between only one pair at a given time, thus allowing lamp to be operated for at least 24 hours without replacement of carbons; control of arc is automatic. Toggle switch on control cabinet starts all operating elements. Ammeter registers arc current and time meter provides record of elapsed operating time.

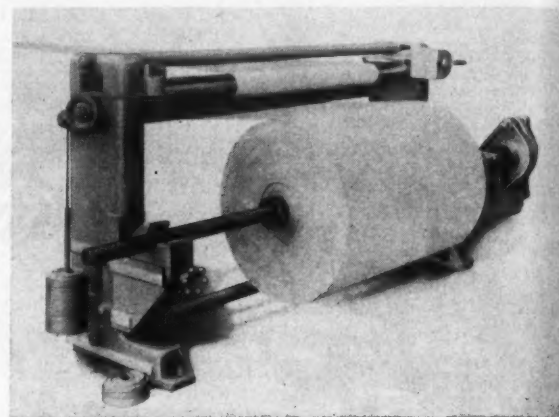
Eighteen sample holders are carried on revolving rack within a practically enclosed chamber or drum over a humidifier. Motor mounted on outside of drum drives rack at one revolution per min. Humidifier consists of an annular water trough located directly below sample holders and containing an immersion heater with automatic thermostat control; adjustable by turning calibrated knob. Unit is 55 3/4" high and occupies an overall floor space 53 by 30 inches. All internal parts are made from corrosion resistant materials. Catalog section L-6201 contains complete data.

NATIONAL CARBON CO., Dept. CEP, Cleveland, Ohio.

When inquiring specify CEP3203—see information request blank, pgs. 24-25



ACCELERATED FADING UNIT . . .  
24 hrs. without attention



TENSION UNWINDER uses auto-hydraulic brake

### Uniform Tension Unwinder

*Auto-hydraulic brakes assure constant tension, regardless of speed or roll diameter*

**Uses**—For assuring continuous uniform tension on a web of material being unwound from a parent roll—paper, board, fabric, rubber, imitation leathers, etc., used in converting, waxing, coating, embossing, printing, etc.

**Features**—Automatic hydraulic brake is so sensitive that 1 1/2 lbs. tension on the web will produce a pressure of 1200 lbs. on the brake. Constant, uniform tension is assured under all operating conditions, regardless of speed or diameter of roll being unwound.

**Operating Principle**—Machine consists principally of a nerve roll and a hydraulic brake, automatically operated and coordinated by means of a tensioneer. Brake controls unwinding roll and physical condition of unwinding roll controls the brake. When pull is strong, brake friction is released and, when pull is light, more brake friction is applied; all this being done instantly and entirely by machine. No attendance or adjustment is needed.

**Description**—Equipment is made in two types, the smaller unit being air cooled and the larger water cooled. The standard air-cooled unit takes rolls 32", 42", 52" and 62" wide, and maximum speed is 700 f.p.m. depending upon material handled and roll width. Larger water cooled model handles boards up to 20 points thick, and standard size machines take rolls 52", 62", 72", 82" and 92" wide. Maximum speed for average material handled is 1500 f.p.m. Bulletin No. 641 gives complete details.

JOHNSTONE ENGINEERING & MACHINE CO., Dept. CEP, Downingtown, Pa.

When inquiring specify CEP3204—see information request blank, pgs. 24-25

### Paint Base Inert in Alkali Presence

*Characteristics of paints are resistance to acids and alkali; water permeability*

**Uses**—Paint base (Parlon) available to paint manufacturers for their own formulations of paints which will stand up on concrete, masonry, stucco and plaster.

**Features**—Oil in conventional paint reacts with free alkali in all masonry surfaces to form a gummy soap which rubs off easily. Parlon base paints, their base inert in presence of alkali, avoid this reaction by absence of oil in formulations. Finishes dry rapidly like lacquer. In spray finishes, only 2 to 4 hours drying time at room temperature is necessary between coats, while 6 to 8 hours are needed between brush coats.



## PRODUCTION

**Performance**—Characteristics of paints are resistance to acids and alkalis; water permeability (Gardner Method III) or .0000008 or  $0.8 \times 10^{-6}$ ; water absorption (80% relative humidity for 24 hours) is 0.27% and the Sward hardness index is 90% that of glass. Have held up under severe service conditions.

**Description**—Protective coating of chemical composition is produced consisting of chlorinated rubber and resins dissolved in a solvent with a plasticizer. Chlorine reacts directly with rubber to form compounds whose properties are intermediate between those of rubber and natural resins. Finishes can be applied by spraying or brushing. Surface must be prepared by cleaning, derusting, removal of grease and drying. Smooth concrete surfaces must be etched with 10% hydrochloric acid for bond.

HERCULES POWDER CO., Dept. CEP, Wilmington, Del.

When inquiring specify CEP3205 — see information request blank, pgs. 24-25

### Traveling Batch Scale Car

*Will straddle overhead bins to bring chutes close to car bucket for batch weighing*

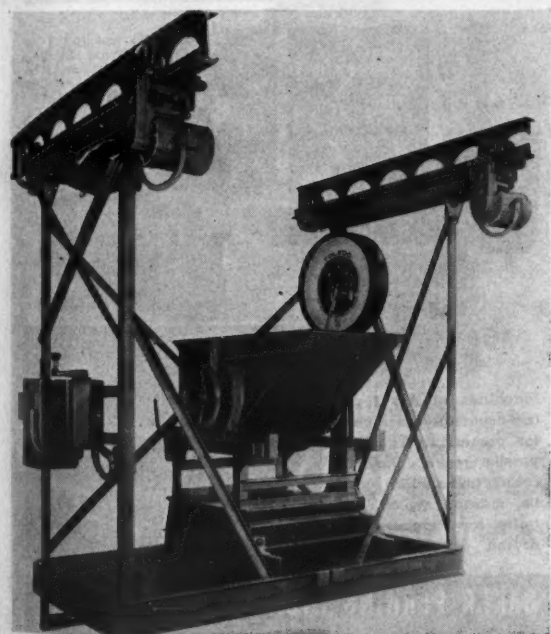
**Uses**—Equipment is particularly suited for handling both materials used in manufacture of rubber and clay products, but can easily be adapted for handling chemicals and other batch materials.

**Features**—Double overhead rails make possible straddling of overhead bins so that their chutes may be brought close to car bucket. Unit makes it possible to gather exact amounts from various bins that go to make up a batch. Scale on the car accurately weighs ingredients as they are dumped in. Bucket is easily emptied by tilting through use of crank wheel.

**Description**—Car is motor driven and controlled by operator who rides on platform space provided at left of bucket. Variable speed drum controller permits car to be traveled at any speed up to 300 feet per minute. Unit illustrated will handle batch loads of one-half ton. Other units can be made to suit individual requirements.

CLEVELAND CRANE & ENGINEERING CO., Dept. CEP, Wickliffe, Ohio.

When inquiring specify CEP3206 — see information request blank, pgs. 24-25



BATCH SCALE CAR travels up to 300 ft. per min.

## MEMO

### SPECIFICATIONS

**Readco Single Packing Gland Double Arm Mixers**

Working Capacities 25 to 400 gal.

Contamination is Eliminated by Single

Packing Gland Construction. The Packing Gland is far removed from material being mixed. Split seals, which are an exclusive Readco feature, and are easily removable, are mounted on the arm shafts at the bowl ends. Vacuum chambers at bowl ends are arranged to eliminate all possibility of pulling air or vapor through the product being mixed.

**Self Cleaning Mixing Arms**—Overlapping or tangential action Readco arms mix with no dead spots. Close clearance and scrapers keep the bowl ends clean. Removable nose pieces may be furnished. Arm speeds are provided to suit requirements — multi-speed or variable speed if desired.

**Temperature Control** is obtained by means of full, partial or divided jacket on the bowl, with or without hollow arms.

**Discharge of mix** from tilting bowl, bottom discharge or a combination of both.

**Adjustable Cover** mounted to permit perfect sealing at all times. Clamped in place by a positive quick acting device. Piping provided for vacuum, jacket and charging connections — no flexible hose required.

**Less Maintenance** with fully enclosed driving and dumping mechanism running in oil.

**Safety features** electrically interlocked to meet full code requirements.



## INDIVIDUAL DESIGN

... for individual needs.

The nation's leading manufacturers pick Readco Chemical Mixers for a reason . . . the reason being that Readco consistently satisfies exacting specifications by making every effort to build the user's requirements and ideas into the equipment.

Because of greater operating efficiency . . . and lower maintenance costs, Readco has successfully met the demands of the leaders. Our engineers invite your production problems with confidence that they can solve them at a saving to you.

Chemical equipment is built of common metals or corrosive resistant alloys—solid or clad, welded or cast—to fulfill exact requirements. Write, wire or call for complete information.

# READ

## MACHINERY CO., INC.

441 RICHLAND AVENUE  
YORK, PENNSYLVANIA

Material Handling Equipment • Pilot Plant Mixers • Bottom Discharge or Tilting Bowl Mixers • Blenders • Sifters • Shredders • Amplifiers • Vertical Mixers • Pharmaceutical Equipment

When inquiring specify CEP3207 . . . see information request blank, pgs. 24-25



## EAGLE SUPER "66"

**REMARKABLE INSULATING CEMENT**  
assures lasting efficiency because this  
mineral wool is physically  
and chemically stable

High coverage—50-55 sq. ft. per 100 lbs. (dry). Springy ball structure minimizes shrinkage. Physical and chemical stability assures top efficiency up to 1800° F. Available in 50-lb. bags. Write for free sample and complete specifications.

### EAGLE INSULATING MATERIALS INCLUDE...

Eagle Super "66" Cement  
Eagle Supertemp Blocks  
Eagle L-T Felts  
Eagle Blankets  
Eagle Loose Wool  
Eagle Insul-seal  
Eagle Insul-stic  
Eagle Finishing Cements

See Sweet's Catalog  
for specifications

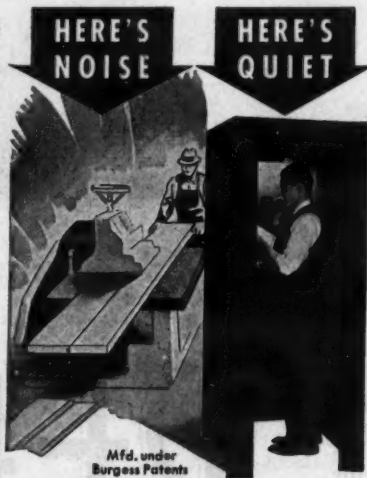
THE  
EAGLE-PICHER  
LEAD COMPANY  
★  
CINCINNATI,  
OHIO

When inquiring specify CEP3203—see information request blank, pgs. 24-25

## A Quiet Place to Telephone Even in the Noisiest Shop

If you have trouble hearing on your shop phones because of noise, install a Burgess Acousti-Booth. This remarkable booth gives you a "zone of quiet" that makes telephoning easy. Patented, sound-absorbent walls soak up all factory noise. There are no doors because no doors are needed.

Hundreds of these doorless booths are in daily use in all kinds of factories. Easy to keep clean—no maintenance. Send the coupon below for illustrated bulletin and prices.



Mfd. under  
Burgess Patents

### Mail Coupon for Free Booklet

Burgess Battery Co., Acoustic Div., 528 W. Huron St., Chicago  
Please send illustrated catalog describing the Burgess Doorless Acousti-Booth and how it works.

Name.....

Firm Name.....

Street City.....

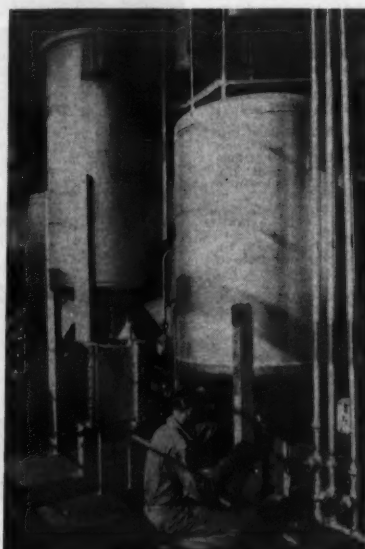
**BURGESS ACOUSTI-BOOTH**

When inquiring specify CEP3209—see information request blank, pgs. 24-25

## PRODUCTION

### Extraction and Decantation Unit

"Sight glass" shows degree of clarity, allowing operator to control decantation funnel position



EXTRACTION & DECANTATION  
unit for fine chemicals

passes through this box, allowing operator to control position of decantation funnel by noting degree of clarity of liquid.

**Description**—Equipment is built of stainless steel throughout to insure product complete freedom from contamination. Agitator shaft, mounted with motor at an angle, has two stainless steel propellers which can be adjusted to any desired position in relation to the liquid. Decanting device can be raised or lowered to any desired level. Complete details available from manufacturer.

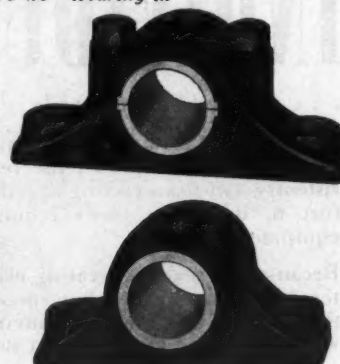
L. O. KOVEN & BRO., INC., Dept. CEP, Jersey City, N. J.  
When inquiring specify CEP3210—see information request blank, pgs. 24-25

### Solid and Split Journal Bearings

Babbitted bores are broached to smooth, hard surface and require no "wearing-in"

**Features** — Babbitted bores are broached to smooth hard surface and require no "wearing in". Height to center line of shaft is rigidly maintained.

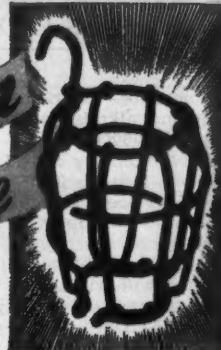
**Description** — Bearings have modern rounded lines and are of smooth gun-metal finish. Bases and face ends are machined. Both styles are tapped for grease cups or pressure fittings. Ample storage groove in top provides proper distribution of lubricant in addition, the split bearing has feeder grooves on each side. Individual containers are supplied for handling and protection in shipping. JEFFREY MFG. CO., Dept. CEP, 853-99 N. Fourth St., Columbus, Ohio.



JOURNAL BEARINGS,  
solid and split

When inquiring specify CEP3211—see information request blank, pgs. 24-25

Is there an  
idea here?



You can't tell by looking at it, but here was a problem in rubber-covering of metal that had them all stumped. It's a little thing, sure... a lamp guard. The trick was to apply rubber in an even, uniform coating, so there would be no thin spots to break loose and peel from the metal beneath.

Miller did the job with its Anode Process. Pure latex covers the metal smoothly, evenly, permanently. Again you can't tell by looking at it, but that rubber covering could be soft, or medium, or hard. We can apply any one of the three.

Do you have a particularly tough rubber-covering problem? If so, this may give you an idea. Drop us a line and we'll be glad to answer your questions.

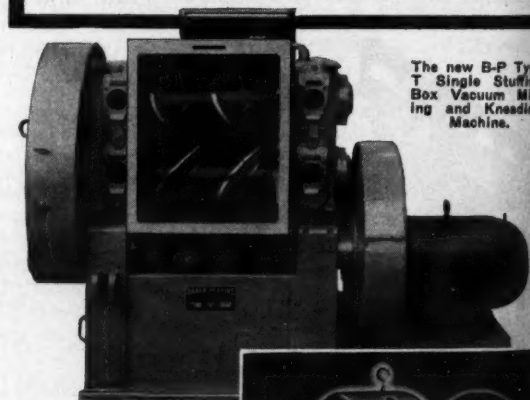
Miller

MILLER RUBBER COMPANY, INC., AKRON, OHIO

"Engineers in Rubber"

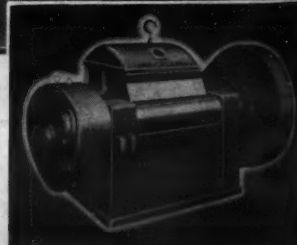
When inquiring specify CEP3212—see information request blank, pgs. 24-25

## BAKER PERKINS MIXERS FOR HEAVY DUTY SERVICE



The new B-P Type  
T Single Stuffing  
Box Vacuum Mixing  
and Kneading  
Machine.

Machines of this type are especially designed for processing Thermoplastic resins, flushed colors, and similar plastic masses which require low temperature drying during mixing.



BAKER PERKINS INC., Saginaw, Michigan

When inquiring specify CEP3213—see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW



# 8

## BIG REASONS WHY YOU GET MORE PUMP PER DOLLAR IN NEW TABER VERTICAL PUMPS

1. Deeper stuffing box seals better against vapor or gas tension.
2. Larger shaft diameters prevent vibration.
3. Longer bearings compensate for non-lubricating properties of liquid pumped.
4. Stuffing box kept out of liquid, reducing repacking interruptions to a minimum.
5. Heavier cover plate withstands greater pressures.
6. Lower cost service than misapplied ordinary pumps.
7. Longer service because pump is built to fit *YOUR* job.
8. Moderate cost... *Taber engineers and builds special-purpose pumps at standard pump cost.*

**TABER CAN HELP YOU SOLVE PUMP  
NEEDS THESE BUSTLING DAYS...**

Write for Bulletin V-735

**TABER PUMP CO. Est. 1859**  
320 ELM STREET 8401 BUFFALO, N. Y.



When inquiring specify CEP3214 — see information request blank, pgs. 24-25

**"CHECK IN AT  
DEWITT OPERATED  
HOTELS"**

**In Cleveland  
HOTEL HOLLENDEN**

**In Columbus  
THE NEIL HOUSE**

**In Akron  
THE MAYFLOWER**

**In Lancaster, O.  
HOTEL LANCASTER**

**In Corning, N. Y.  
BARON STEUBEN HOTEL**

**DEWITT  
OPERATED  
HOTELS**

**1 HOTELS THAT CHECK WITH EVERY TRAVEL STANDARD**

**THEODORE DEWITT      R. F. MARSH**  
President                      V. P. & Gen. Mgr.

When inquiring specify CEP3215 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### Hard, White Enamel Finish

*Intensely white, tile-like surface withstands repeated washings with soap and water*

**Uses**—White enamel finish for walls, ceilings and equipment. Especially adapted for industries, food, chemical, drugs, etc., where sanitation is important.

**Features**—Finish has hard, tile-like surface, and is intensely white. Withstands repeated washings with soap and water. Will not yellow or lose reflective value with age. Light reflective value as high as 89%. Hard film does not accumulate dirt. Can be easily cleaned with dry cloth. One coat covers most painted surfaces. Dries to touch in five hours, and dries hard overnight.

**Description**—"Kem Save-Lite Gloss #46" and "Kem Save-Lite EgShel #45" are newly developed finishes.

**SHERWIN-WILLIAMS CO., Dept. CEP, Midland Bldg., Cleveland, Ohio.**

When inquiring specify CEP3216 — see information request blank, pgs. 24-25

### "Porex" Filtration & Flow Control

*More complete removal of small particles; has very high flow rate for given area*

**Uses**—"Porex" has two principal functions which are to remove foreign materials from fluid, such as oil, and to alter characteristics of gases by diffusion, reducing pressures and controlling flow rates. Applications in pumps, fuel lines, refrigerators, lubricating systems, evaporators, absorbers, paint sprayers, premixed gas burners.

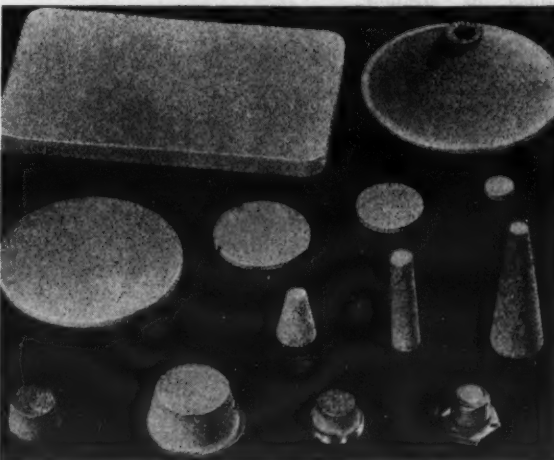
**Features**—Material can be bonded to steel and copper and, in this way, can be made an integral part of solid metal which may be machined, ground, bored, threaded, etc. When used as a filter, "Porex" provides conditions which permit high flow rates, low flow restriction and a high degree of surface clogging before efficiency is reduced. As a diffusing plate, it offers low flow restriction and uniform, controlled porosity.

**Performance**—Porosity can be controlled within narrow limits up to 50% void by volume. Tensile strengths up to 10,000 psi are obtainable. Ductility ranges between 3 and 15% in tension, and higher in compression.

**Description**—"Porex" is manufactured from powdered metal, and its shape and size can be varied within limits to suit specific requirements. At present time, material is made in discs, sheets, cylinders, truncated cones and some special shapes. Complete details are contained in a very informative bulletin, Form 101.

**MORaine PRODUCTS DIV., General Motors Corp., Dept. CEP, Dayton, Ohio.**

When inquiring specify CEP3217 — see information request blank, pgs. 24-25



POWDERED METAL used for filtration & flow control

## KIRK & BLUM

### STEEL FLANGES

**ROLLED  
STEEL  
FLANGES  
6" TO 36"**

**PRESSED  
STEEL  
FLANGES  
3", 4", 5"  
DIAMETER**



Utmost accuracy and strength are assured. Immediate shipments made from stock of standard sizes. Special sizes of flanges and angle rings can be furnished promptly. Complete details and prices on request. Write today—no obligation.

### THE KIRK & BLUM MFG. COMPANY

2833 Spring Grove Avenue, CINCINNATI, O.

When inquiring specify CEP3218 — see information request blank, pgs. 24-25

### New LIFE for Your Toolroom



Increase the capacity of your toolroom by equipping it to handle a greater variety of work. South Bend Lathes are designed for maximum versatility with unsurpassed accuracy and speed even on the most exacting jobs. They are capable of delivering split-thousandth precision at the source of all manufacturing precision—your toolroom.

South Bend Lathes are available with either toolroom or manufacturing equipment in five sizes: 9", 10", 12", 14½" and 16" swing with bed lengths from 3 to 12 feet. Write for catalog and name of nearest dealer, specifying type and size lathe required.



### SOUTH BEND LATHE WORKS

280 E. Madison St., South Bend, Ind., U. S. A.

Lathe Builders for 35 Years

When inquiring specify CEP3219 — see information request blank, pgs. 24-25

## Get a Specialist!



### WRONG EQUIPMENT CAN BE EXPENSIVE

New economies are now possible in building tanks, kettles, agitators, pressure vessels of stainless steel up to  $\frac{3}{4}$ " thick. To get these economies select a fabricator that has all the machinery and experience required for special work in lighter gauge alloys.

Because we are specialists in this field our engineers are specially trained to design

your equipment for most economical fabrication. Our special-purpose machines guarantee the accurate fabrication of your equipment so that it does the job you want done. Our exclusive construction features result in sturdier equipment that speeds your plant production and increases your profit for many years.

CONSULT WITH US

**S. BLICKMAN, INC.**

709 GREGORY AVE. WEEHAWKEN, N. J.

TANKS • KETTLES • CONDENSERS • AGITATORS • EVAPORATORS • PANS • VATS • CYLINDERS

When inquiring specify CEP3220 — see information request blank, pgs. 24-25

## Speed and Stamina



### ... FOR THE NEEDS OF TODAY AND TOMORROW!

Built to deliver 30,000 hours of service — under conditions for which intended — Dodge-Timken Bearings have the speed and stamina to meet today's peak demands and hold maintenance costs to the minimum at all times. Rugged — easy to install — effectively sealed against destructive elements.

DODGE MANUFACTURING CORPORATION  
Mishawaka Indiana, U. S. A.

**DODGE**  
MISHAWAKA

Write for simple, non-technical selection tables that make it easy to pick the right bearing for any job.



When inquiring specify CEP3221 — see information request blank, pgs. 24-25

## PRODUCTION



RUBBER TIRES conduct electricity

### Rubber Tires Conduct Electricity

For industrial vehicles operating in hazardous locations with danger of fire and explosion

**Uses**—Special rubber compound is now available for use in making rubber tires that will conduct electricity. Such tires are used as safeguard against hazard of fires or explosion caused by static electricity from industrial trucks and other vehicles operating in plants manufacturing explosives, such as gunpowder or armaments, or other inflammable materials.

**Description**—Shown in illustration is laboratory technician passing a current through the rubber tire, lighting a neon bulb in contact with tire's surface to demonstrate conducting properties of this special new rubber compound. Details are available from

B. F. GOODRICH CO., Dept. CEP, Akron, Ohio.

When inquiring specify CEP3222 — see information request blank, pgs. 24-25

### Safety Barrel & Drum Truck

Double hook prevents barrels falling off truck and helps operator load

**Uses** — For handling either full or empty bilged or straight-sided barrels, drums or cylindrical fiber containers.

**Features**—Drums and barrels are prevented from falling off the truck by a double hook which also helps operator in tipping barrel onto truck and holds it while in transit. Truck can be tipped back while loaded and rest on steel legs. Truck has a capacity of 800 pounds, and is equipped with 9-inch wheels of semi-steel or rubber-tired; Hyatt bearing equipped in either case.



BARREL TRUCK uses double safety hook

BARRETT-CRAVENS CO., Dept. CEP, 3276 West Thirtieth St., Chicago, Ill.

When inquiring specify CEP3223 — see information request blank, pgs. 24-25

## THE NEW 2" OLIVITE PUMP for Handling Acids and Other Corroding Solutions

**NEW**

Materials  
of  
Construction

•  
Pumping  
Heads

•  
Capacities



The 2-inch Olivite Acid-Handling Pump can now be obtained with the following parts made of a high tensile strength, chemically resistant plastic:

impeller  
resilient sleeve

split gland  
labyrinth ring

This new material has permitted a re-design with a 20 to 25% increase in efficiency and up to 5% increase in discharge head. The 50% reduction in weight of the impeller means less overhang weight on the shaft and less torque. Results show that stuffing box life is increased.

Try out one of these NEW Olivites in your plant.

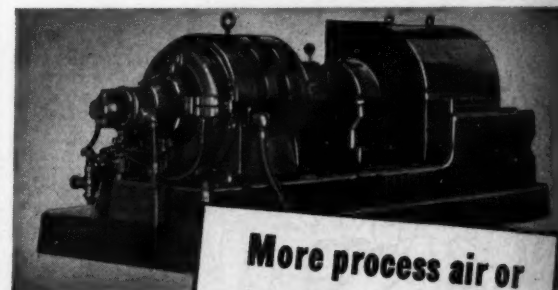
### OLIVER UNITED FILTERS INC.

NEW YORK, N. Y.  
33 West 42nd St.

CHICAGO, ILL.  
221 N. LaSalle St.

OAKLAND, CALIF.  
2900 Glencock St.  
9-0074

When inquiring specify CEP3224 — see information request blank, pgs. 24-25



One of three Elliott Blowers driven through gears by Elliott synchronous motors, at the Gary, Indiana, Sewage Treatment Plant.

### More process air or gas with **ELLIOTT** CENTRIFUGAL BLOWERS

These blowers, designed specifically to the particular conditions, are outstandingly successful in many chemical and process applications. They range from small compact single-stage units to large multi-stage machines. Capacities from 2000 c.f.m. upwards; pressures from 1 to 100 lb. gage. Elliott builds the driving end too — turbine or motor, with speed-increasing gears where required.

Write us for full details. For the specific job call in the Elliott man.

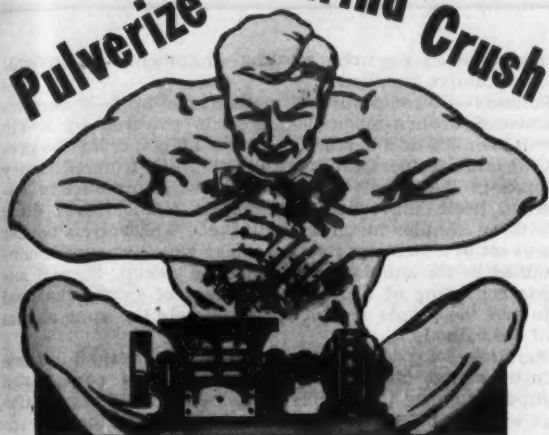
CONSULT AN  
ELLIOTT  
ENGINEER-  
SALESMAN.  
He can help  
on your next  
blower  
application.

**ELLIOTT COMPANY** Centrifugal Blower Dept.  
JEANNETTE, PA.

When inquiring specify CEP3225 — see information request blank, pgs. 24-25



# Shred Grind Crush Pulverize



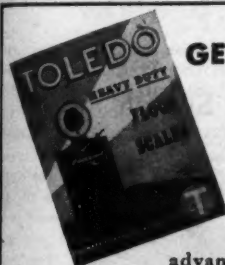
No matter the material—bauxite—rock—shell—wax—iron oxides—borax—soy beans or what—there is an American Pulverizer Unit that will reduce it at the lowest cost per ton.

Put your crushing—grinding—shredding—pulverizing problems up to us for solution. No obligation—lowest possible cost—quick delivery on portable or stationary equipment.

Write today—describe your job. Full engineering counsel is yours without obligation. Also ask for literature on portable or stationary units.

**American  
Pulverizer Co.**  
1247 Macklind Avenue  
St. Louis, Missouri

When inquiring specify CEP3226—see information request blank, pgs. 24-25

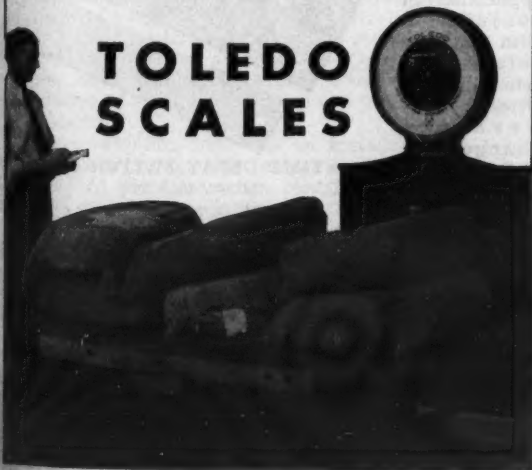


## GET NEW LITERATURE ON FLOOR SCALES

With Toledo Floor Scales on guard you can be sure of accurate, speedy and reliable weighing. The new "1500" series offers all proven Toledo

advantages plus new versatility in meeting all installation requirements. Send for new literature. Toledo Scale Company, Toledo, Ohio.

# TOLEDO SCALES



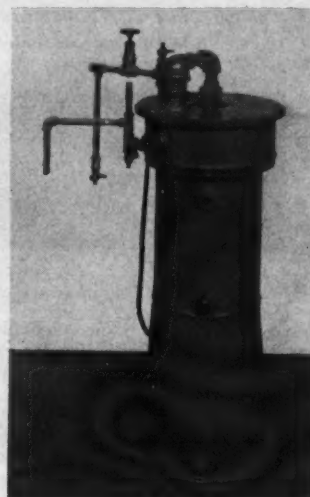
When inquiring specify CEP3227—see information request blank, pgs. 24-25

## PRODUCTION

### "Stripper" for High Vacuum Solvent Distillation and Drying Operations

**Uses**—Unit is designed for use with the Stokes rotary high vacuum pump. Vaporizer is an auxiliary device to meet special conditions. It is not a substitute for the oil clarifier for continuously removing condensed moisture and foreign matter from pump oil, but may be used in conjunction with oil clarifier in vacuum processing operations where oil dilution by low-boiling solvents is troublesome.

**Features**—Maker states that vaporizer will continuously remove low-boiling-point solvents and other volatiles, such as encountered in distilling essential oils, which may have dissolved in the pump oil. This makes it possible for pump in solvent applications to effectively maintain high vacuum within a few millimeters of absolute. If desired, solvents removed by vaporizer can be recovered. Pump shut-downs for oil changes are practically eliminated.



SOLVENT VAPORIZER removes low-boiling-point solvents

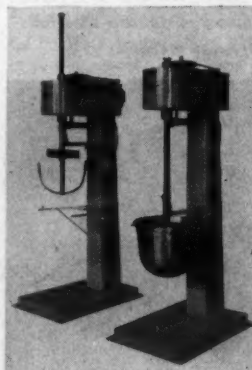
**Description**—This compact unit operates on the steam distillation principle. It is mounted alongside the vacuum pump, through which the pump sealing oil is passed before it is returned to the oil reservoir.

F. J. STOKES MACHINE CO., Dept. CEP, 5974 Tabor Rd., Olney, P. O., Philadelphia, Pa.

When inquiring specify CEP3228—see information request blank, pgs. 24-25

### Stirrer-Mixer Has Removable Kettle

Single shaft raised & lowered to remove kettle and permit different stirring levels



STIRRER-MIXER has removable kettle

of all-steel welded construction. Motor is 1½ H.P. Weight about 500 pounds; height about 7 feet. Various types of blades, shafts and mountings can be furnished for various applications. A wide range of speeds can be developed.

KLAAS MFG. CO., Dept. CEP, 4318 East 49th St., Cleveland, Ohio.

When inquiring specify CEP3229—see information request blank, pgs. 24-25

**Uses**—Equipment is adapted to many kinds of stirring and mixing operations.

**Features**—Heavy base of unit insures rigidity. Kettle is removable. Single shaft can be raised and lowered to remove kettle and permit of different stirring levels. Blade is also removable. Gear-reduction is sanitary, fully enclosed to exclude dirt. Varied sizes kettles are available and the machine can be changed over in a few minutes from one job to another, thus keeping unit busy at all times.

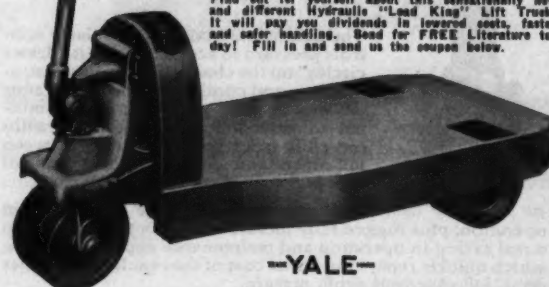
**Description**—Unit consists of base, standard, head, stirring arm and kettle, and is

## IT'S HERE! THE NEW "LOAD KING" HYDRAULIC LIFT TRUCK

The Yale "Load King" Hydraulic Lift Truck is the truck you've always wanted. Featuring easier lift, easier steer, greater safety, increased maneuverability, controlled lowering of loads and minimum maintenance — the "Load King" is ideal for heavy-duty handling jobs. (Capacities: 2,500 to 5,000 lbs.)

All parts of the "Load King" are specially designed for hand truck service. The Yale-built hydraulic lifting unit is an integral part of the truck, bears entire load weight, relieves operator of lifting strain.

Find out for yourself about this sensational new and different hydraulic "Load King" Lift Truck. It will pay you dividends in lowered costs, faster and safer handling. Send for FREE literature today! Fill in and send us the coupon below.



—YALE—

The Yale & Towne Mfg. Co.  
4530 Tacony Street, Philadelphia, Pa.

( ) Please send FREE literature on the Hydraulic "Load King."

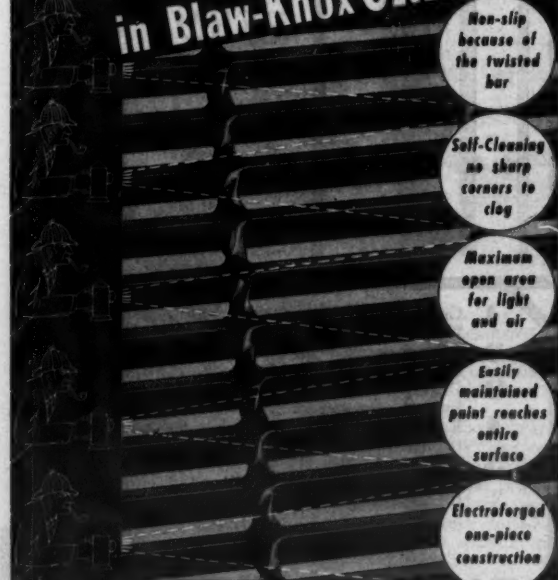
( ) Please have your representative call.

Name \_\_\_\_\_

Address \_\_\_\_\_

When inquiring specify CEP3230—see information request blank, pgs. 24-25

## INVESTIGATORS FIND THESE 5 OUTSTANDING FEATURES in Blaw-Knox GRATING



Send for  
FREE  
paper weight  
size sample

BLAW-KNOX DIVISION of Blaw-Knox Co.  
FARMERS BANK BUILDING PITTSBURGH, PA.

NAME \_\_\_\_\_  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

When inquiring specify CEP3231—see information request blank, pgs. 24-25



**"THIS REGULATOR  
"Draws Circles"  
TO SAVE  
YOU MONEY**

The Masoneilan No. 27 Regulator controls pressure so accurately that it "draws circles" on the charts of recording instruments—and continues to do so day after day—year after year—without continual adjustment for load changes; without shift from control setting between full open and closed; without control time lag; as witness the chart above.

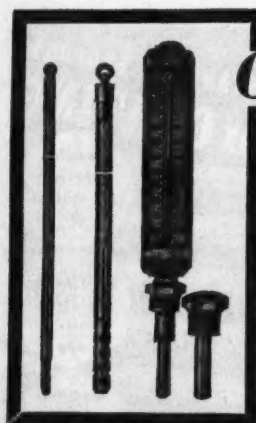
This accuracy, plus ease of placing in operation, plus rugged fully inclosed construction adds up to a real saving in operating and maintenance expense; a saving which quickly repays the initial cost of the regulator and goes on to increase your profit margin.

Use Masoneilan No. 27 Regulators on primary and secondary steam lines, desuperheating service, make-up service, pump regulation and other services requiring accurate, stable, trouble free control.

Ask for Bulletin No. 69 which describes these regulators—and many others in the complete Masoneilan line.



When inquiring specify CEP3232—see information request blank, pgs. 24-25



## GUARANTEED PERMANENT ACCURACY

is "Built-in" Palmer Thermometers by these 5 separate steps

- 1 Careful selection of the right type of Palmer "Red-Reading-Mercury" glass for tubes.
- 2 All tubes are heat treated and high range tubes electrically annealed.
- 3 Only pure mercury is used, freed from moisture by our own special process.
- 4 Each tube is baked to remove any trace of moisture prior to sealing.
- 5 Every tube has its own respective scale which is individually graduated, tested and identified for assembly for it.

Specify "PALMER" on your next order for Industrial Thermometers. Write for Catalog 300-D.

## THE PALMER CO.

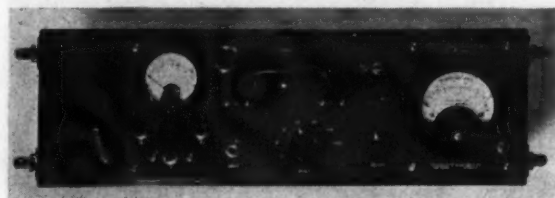
Mfgs. Industrial, Laboratory, Recording & Dial Thermometers  
2510 Norwood Ave., Cincinnati, Norwood, Ohio  
Canadian Plant: King & George Sts., Toronto, Canada

When inquiring specify CEP3233—see information request blank, pgs. 24-25

## INSTRUMENTS OF CONTROL

### Roughness Rating with Profilometer

Instrument gives direct dial readings in true inch units; no computations required



PROFILOMETER measures roughness ratings direct

**Uses**—Instrument is designed for shop use for determining roughness ratings directly exactly as shown on blueprints. Applications include use with production parts, paper mills, glass plants, etc.

**Features**—Readings are taken directly from dial in true inch units, and no computations or scaling methods are required. Instrument can be used on flat, cylindrical, external or internal curved surfaces, and of many shapes and sizes. Unusual skill or special training is not required to operate. Small, portable tracer is convenient for hand use. Profilometer is completely self contained, portable and requires no electrical connections.

**Operation**—To secure a reading, operator moves tracer across surface, whose roughness is to be determined. Meter reads a continuous running average of the height of surface irregularities, giving the exact information operator requires at the time he needs it most.

**Description**—Self-contained instrument contains small non-spillable storage A battery and dry B battery. Small charger for A battery is supplied. Meter will operate continuously about 10 hours on a single A battery charge, and for several months on set of B batteries. Type P instrument is supplied ready for operation with Type S tracer, flexarm, charger, one each of Types A, B and D pilot yokes, roughness specimen, tubes and batteries.

PHYSICISTS RESEARCH CO., Dept. CEP, 343 South Main St., Ann Arbor, Mich.

When inquiring specify CEP3234—see information request blank, pgs. 24-25

### High Speed Electrolytic Analyzer

Heavy duty model shows 35 to 50% saving in time compared with conventional methods

**Problem**—Adequate production control in non-ferrous metals industries called for a material time reduction in methods used for electro-deposition analysis. Recognized methods and instruments available were unsuited to use of high current density deposition revealed need for cooler and better circulation of the electrolyte, elimination of mechanically hazardous



ELECTROLYTIC ANALYZER . . .  
high speed, heavy duty

ous overhead electrode rotating equipment, and general manipulative simplicity.

**Solution**—Solenoid stirring method was used—a coreless solenoid of non-magnetic materials powered by a 110 volt, d.c. line at a current of 0.75 to 1.0 amperes. To prevent large temperature increases resulting from efficiency losses in electrolysis and to dissipate heat product in solenoid itself, the central opening of solenoid was fitted with an annular metal water jacket. Electrolysis beaker was set in a stainless steel container which was itself contained in the annular ring of cooling jacket. Special anode consisting of two elliptical tubes of gauze was used to give the proper area of approximately the same as that of the cathode.

**Results**—Total design of final instrument resulted in these instrumental features: (1) elimination of complicated superstructure; (2) complete confinement and segregation of stirring mechanism, the solenoids; (3) automatic adjustment of stirring—the higher the current density, the higher the speed of rotation; (4) rapid and easy manipulation of electrodes on grooved rods with centering and depth stops; (5) ready access to control panels.

Table shows currents at which more common electroanalyses take place under conditions of high current densities as allowed with this instrument:

	Ampers
Copper assay . . . . . (finished at 3)	5
Copper and lead in silicon bronze . . . . .	8.5
Copper in nickel iron alloys . . . . .	7
Copper in brass . . . . . (started and finished at 5)	8
Nickel in beryllium copper . . . . .	7
Aluminum and cadmium in zinc alloys . . . . .	2
Nickel, cobalt, silver . . . . .	3
Comparison with conventional methods shows an average saving of from 35 to 50% in time consumed; and in cases where overnight methods are used a saving of 70 to 80%.	
E. H. SARGENT & CO., Dept. CEP, 155 East Superior St., Chicago, Ill.	

When inquiring specify CEP3235—see information request blank, pgs. 24-25

### Time Delay Switch

Small size does not affect performance



TIME DELAY SWITCH . . .  
1 sec. to 5 min.

**Uses**—To provide a predetermined time delay in electrical control; for laboratory and industrial application in conjunction with magnetic relays and generally used where temperature changes are fairly constant and slight variations in timing are not detrimental.

**Description**—Special compensating switches are provided where accurate delay is essential. Switches are made as small as technically possible without sacrificing performance. Switches are provided with four terminals, two for heater coil, and two for the main circuit and adjustable within time limits of one second to five minutes. Size with soldering lugs 3" x 7/8" x 7/8", with binding posts 3" x 7/8" x 1 1/4". Wiring diagrams and timing charts sent on request.

BETTS & BETTS CORP., Dept. CEP, 551 West 52nd St., New York, N. Y.

When inquiring specify CEP3236—see information request blank, pgs. 24-25



## FOR PRODUCTION . . . FOR LABORATORY

### Motor Power Units and Motorized Valves

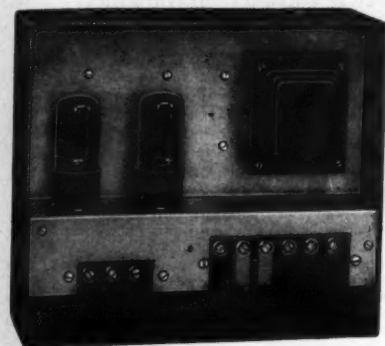
Two-color, 24-page catalog illustrates and describes in detail a line of motor power units and motorized valves for operation with maker's control instruments. Large photos show electric control motors; slip stem globe, rotary stem, butterfly, pilot operated, three-way and special types of valves. Dimension tables and schematic drawings are widely used. Catalog No. 77-1 is available on request.

BROWN INSTRUMENT CO., Dept. CEP, Wayne & Roberts Aves., Philadelphia, Pa.

When inquiring specify CEP3337—see information request blank, pgs. 24-25

### Non-Mechanical Liquid Level Control

Electrode has no chemical reaction on container contents; no moving parts and no floats



LIQUID LEVEL CONTROL  
has no moving parts

**Uses**—Has wide application for controlling level of such products as water, syrup, oils, milk, soup, soap, acids, brine, chemicals, fruit juices, ice cream, ice, distilled water, residues, sewage, etc., in any type of container, open or closed; used in tanks, vats,

kettles, boilers, pasteurizers, coolers or freezers, as heat, steam vapors, foam, cold and frost, high or low temperatures have no influence on its functions.

**Principle**—Controls function on principle of variations in volume of emission of electrons in standard high current amplifying tube. When liquid contents of container make contact, or leave contact, with an antenna or metal rod electrode that is mounted on insulated supports in the container, volume of flow of electrons in tube is changed. This variation in electronic flow activates a magnetic relay to open or close an electric load circuit. **Features**—Electrode has no chemical reaction on contents of container. Each switch is fitted as standard with an auxiliary emergency tube circuit which automatically gives signal and carries on operation should regular electronic circuit fail for any reason. Once installed, unit requires no attention whatever. "Faraton" control may be installed at any distance up to 500 feet from container under control.

**Operation**—Flexible unit can be installed to (1) ring bells or show lights when container approaches emptiness, (2) do the same when container approaches fullness, (3) open or close inlets or outlets under above conditions and/or (4) maintain contents exactly at present levels, (5) indicate by visible signals exact amount of container contents, and (6) instantly indicate levels as contents rise or fall.

**Description**—Model FL-2, shown in cut, is two-circuit control. Unit is complete for 115 volt or 230 volt A.C. with two bare electrodes of stainless steel, 1 ft. and 2 ft. long, fitted with insulated mountings of Type A, and 50 ft. of special lead-in wire. Relay contacts rated ¾ H.P. Complete details given in Bulletin 412.

LUMENITE ELECTRIC CO., Dept. CEP, 407 S. Dearborn St., Chicago, Ill.

When inquiring specify CEP3238—see information request blank, pgs. 24-25



MASS SPECTROGRAPH mounted on truck

### Mass Spectograph, Truck Mounted

Determines relative quantities of constituent gases with accuracy of 1 part in 100,000

**Uses**—Developed for primary uses in the petroleum refining industry, this instrument is mounted on a small truck to be wheeled where needed in the plant. Used to give quantitative analyses of gases tapped from fractionating towers at various stages of the process. If constituents of gas are known in advance, as they are in refining, the instrument "sorts" the different molecules according to their "weight" or mass, and can determine the relative quantities of the constituent gases with an accuracy of one part in 100,000.

Another suggested use for the instrument in the petroleum industry is in prospecting for oil. Gases are extracted from samples of earth and analyzed for traces of certain tell-tale hydrocarbons that indicate the presence of oil-bearing strata beneath the surface.

Instrument has recently been demonstrated and many other uses are indicated for it.

WESTINGHOUSE RESEARCH LABORATORIES, Dept. CEP, East Pittsburgh, Pa.

When inquiring specify CEP3239—see information request blank, pgs. 24-25

### Safety-Head Angle Centrifuge

Sixteen-page catalog features a line of centrifuges, with all models illustrated, completely described and prices supplied. Of particular interest is the new safety-head angle centrifuge that gives a speed of approximately 5000 R.P.M. on direct current with six 15 ml. tubes loaded and 4200 R.P.M. on A.C. with same load. Catalog No. 111 is available on request.

CLAY-ADAMS CO., Dept. CEP, 44 East 23rd St., New York, N. Y.

When inquiring specify CEP3240—see information request blank, pgs. 24-25

### Polarizing Microscopes

Handsomely done, 24-page-and-cover booklet shows many types in this complete line of polarizing microscopes. General information is given on various applications of the instrument in several industries. Large photos show the major models and one photo is "cut-away" to indicate all of the major features. Prices are shown for each model, as well as for a large list of accessories. Catalog M75-II is available on request.

SPENCER LENS CO., Dept. CEP, Buffalo, N. Y.

When inquiring specify CEP3241—see information request blank, pgs. 24-25

**Make Your Laboratory  
LOOK BETTER—  
Make Your Money  
GO FARTHER!**

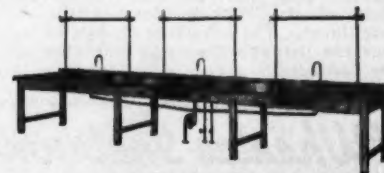
*Kewaunee's*  
**"CUT-COST SYSTEM"**

Kewaunee Standard Matched Units give attractive uniformity. Costs are lowered because special engineering is eliminated and large scale manufacturing is made possible. Installation costs are reduced. Deliveries are speeded up. Write for Kewaunee Catalogs of Wood and Metal Furniture.

*Kewaunee Mfg. Co.*  
LABORATORY FURNITURE EXPERTS

C. G. Campbell, President  
5011 S. Center St.,  
Adrian, Mich.  
Representatives in Principal  
Cities

6-Student  
Science Table  
No. W-1690



When inquiring specify CEP3242—see information request blank, pgs. 24-25

## All Metal THERMOMETERS



**Require NO correc-  
tions of any kind  
... maintain their  
high initial accuracy  
far longer!**

You can mount a WESTON all-metal Thermometer in any location and at any angle you wish . . . without the necessity of correcting for elevation or line temperatures. That's because the WESTON employs no capillary, no vapors or liquids, no linkage in the drive. There is but one moving part, and that part is made of enduring, all-metal construction.

In addition, this simplified and rugged all-metal construction safeguards against inaccuracies or damage from shock or over-ranging . . . enables the WESTON to maintain its high initial accuracy (1% over the entire scale) over a far longer period. There are other exclusive advantages, too, which contribute to greater operating efficiency and lower maintenance costs. A bulletin containing complete information gladly sent on request. Weston Electrical Instrument Corporation, 586 Frelinghuysen Avenue, Newark, New Jersey.

**WESTON ALL-METAL  
THERMOMETERS**

When inquiring specify CEP3243—see information request blank, pgs. 24-25

## How to CONTROL LIQUID LEVELS without floats or contacts



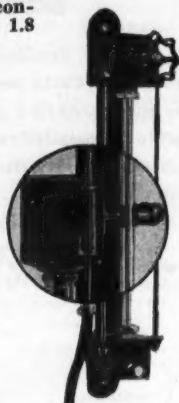
### WHEELCO REMOTE CONTROLS

effect control action without any contact with the liquid to be controlled operate on a differential of .001 to .125 inches change in liquid level

may be used with electrolytic as well as dielectric liquids having dielectric constants as low as 1.8

### OPERATION

Remote Controllers employ Wheelco's famous "Radio Principle." A "Radio Principle" Control System consists, essentially, of an electronic tube and a relay assembly. The electronic tube is maintained in an oscillating condition and thereby generates a high frequency alternating current. This current is conducted to a Pick-up Unit—shown clamped to gage glass at right—by means of a special cable. Any material entering the field of the Pick-up detunes the oscillator. The resulting change in current through the relay operates its contacts.



For Complete Data on Remote Controllers Write for Bulletin J 2-3.

**Wheelco Instruments Co.**  
HARRISON AND PEORIA STREETS • CHICAGO, ILLINOIS

When inquiring specify CEP3244 — see information request blank, pgs. 24-25

## CONTROL TEMPERATURE of ALL LIQUIDS at LOW COST!



STERLING  
**THERMOTROL**

This Control is showing Manufacturers and Processors a new idea in simple, LOW COST, efficient tank and process TEMPERATURE CONTROL. Effective steam-heated hot water tanks, fuel-oil preheaters, plating baths, heat-exchangers—wherever liquids must be kept at constant temperatures. Used at pressures up to 125 pounds, temperature ranges from 100° to 300°F. Immersion well supplied for corrosive solutions. Saves on First Cost and in Production Costs!



★ Write for Latest Bulletin No. 402 ★

STERLING, INC., 3715-C N. Halton Street, Milwaukee, Wisconsin

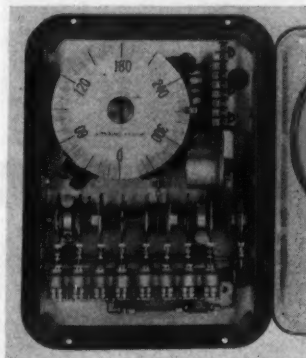
**STERLING, INC.**

When inquiring specify CEP3245 — see information request blank, pgs. 24-25

## INSTRUMENTS

### Multiple-Cam Time Cycle Controller

*Individually adjusted cams do not require fine setting to get accurate results*



TIME CYCLE CONTROLLER has individually adjusted cams

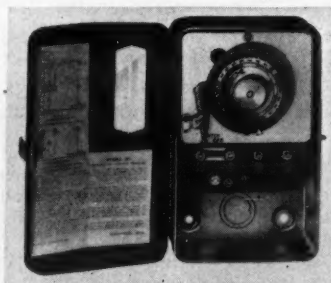
speed and torque for pilot valve operation and application flexibility. Cams are individually adjustable and their setting does not require fine adjustment for accurate results. Any sequence of operation can be obtained. Operation—In operation, the controller actuates or engages, at exactly the correct time in each cycle, the necessary mechanical, electrical or pneumatic devices for automatically carrying out the intended schedule. Timing is accomplished by Telechron-driven aluminum disc on which is printed a 25-inch time scale. Operation schedule is incorporated into controller by punching holes with ordinary ticket punch on time scale. Location of holes determines time of operation of cam mechanism. Discs for new cycles or schedules can be easily made. All controllers are drilled for eight cams and pilot valves. Additional cams and pilot valves up to total of eight can be easily added. Catalog 572 gives complete details.

BRISTOL CO., Dept. CEP, Waterbury, Conn.

When inquiring specify CEP3246 — see information request blank, pgs. 24-25

### Time Switch Not Affected by Dust

*Just two exposed gears, all others operate in sealed oil bath*



TIME SWITCH not affected by dust

switch will operate successfully at temperatures as low as 20 degrees below zero.

Description—Compact case is made of 18-gauge steel with a seamless drawn cover and base. Operation is accomplished by a slow speed (450 R.P.M.) industrial type, self-starting synchronous motor.

PARAGON ELECTRIC CO., Dept. CEP, 37 West Van Buren St., Chicago, Ill.

When inquiring specify CEP3247 — see information request blank, pgs. 24-25

Uses — Impulse - sequence time cycle controller is for timing mechanical operations such as tire molds and other plant processes where a number of factors must be accurately timed according to a fixed program.

Features—In this controller time measurement and pilot valve operation are handled by separate mechanisms. Separation of two basic functions in design of instrument makes possible accurate timing of factors under control, high

SHADOWGRAPH weighing and packaging 555  
Defender Photo Supply  
products—Rochester, N.Y.



Here's how to weigh and package high priced chemical products in small containers. Do it with the EXACT WEIGHT SHADOWGRAPH. This weighing unit can be furnished in unbelievable sensitivity and still retain high speed operation. It was expressly designed to give users the highest degree of accuracy under present day industrial demand for volume production. SHADOWGRAPH scales are electrically operated, simple in construction, easy to operate and trouble-free. Write for complete details for your plant.

**THE EXACT WEIGHT SCALE CO.**  
31 W. Fifth Ave. Columbus, Ohio

There is no substitute for Exact Weight

When inquiring specify CEP3248 — see information request blank, pgs. 24-25

## ON GUARD



Electric Model 5-D1-MF (above) is ceaselessly on the job, giving accurate count for economical, efficient production control. It's ideal for counting small pieces, parts that must not be marred, articles too light in weight for mechanical contact. Especially adapted for use with Photoelectric Relays.

Full details in Catalog 16. Send for your copy today! There's a Productimeter for every industrial need. Write us for assistance on your counting problems.

**DURANT MFG. COMPANY**  
1061-A N. DuSane St. Milwaukee, Wis. 182-A Eddy Street Providence, R. I.

When inquiring specify CEP3249 — see information request blank, pgs. 24-25



**Exceptional ACCURACY**  
**.. Unusual SIMPLICITY ..**  
**for TIMING**  
*Scientific and Industrial Tests*



**STANDARD  
ELECTRIC**

## Automatic STOP CLOCKS

These accurate, easy-to-read stop clocks are the last word in simplified precision timing. Measure elapsed time down to .005 seconds. Several models, including types for reaction timing. Automatic control eliminates manual error. Rugged construction insures trouble-free service. Our 30-day Free Trial Offer enables you to thoroughly test a Standard Electric Stop Clock at our expense. Write Dept. N for full details.

**THE STANDARD ELECTRIC TIME COMPANY**

Springfield, Mass. . . Branch Offices in Principal Cities

"STANDARD MAKES EVERY SPLIT-SECOND COUNT"

When inquiring specify CEP3250 — see information request blank, pgs. 24-25

## The Big STANZOIL Fist Reminds you of greater profits to come

—first, of the relief, comfort, protection that Stanzoil neoprene Gloves formerly brought—and will bring again—to your employees' hands exposed to irritating oils, greases, fats, solvents, chemicals;

—and then, of greater profits that Stanzoils created for you and will create again: increased production; decreased disability; fewer claims.

Right now, neoprene is on the Honor Roll of prime Defense "musts". Stanzoil production has been sharply curtailed. But occasionally we can withdraw a pair for evaluating

by Companies  
not acquainted  
with Stanzoils.  
Write today.



MADE WITH DU PONT NEOPRENE

**THE PIONEER RUBBER COMPANY**

239 Tiffin Road • Willard, Ohio, U.S.A.  
New York • Chicago • Los Angeles

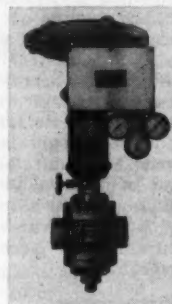
When inquiring specify CEP3251 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

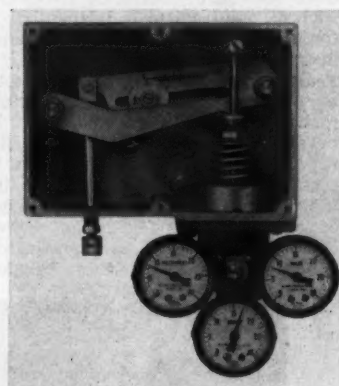
## INSTRUMENTS

### Fast Operating Valve Positioner

Responds to less than 1/5 of 1% of full scale instrument pressure change



**VALVE  
POSITIONER is  
fast-operating**



**Uses**—To overcome valve friction; for diaphragm operated valves.

**Features**—By-pass valve of tapered plug type is built as interchangeable part of unit. By turning this valve with screw driver from "Positioner" to "Instrument", unit may be removed without upsetting control process. Ruggedly built unit is fast operating.

**Performance**—Will respond to less than 1/5 of 1% of full scale instrument pressure change. Speed of response—approximately 11 seconds for 2 lbs. to 14 lbs. change on 200 cubic inch volume, equivalent to average one inch stroke valve. Air consumption is less than one cubic foot of free air per minute at midstroke, and zero at either end of valve travel since pilot is closed at both limits.

**Operation**—Design of positioner uses principle of balanced operation by spring loading the bellows unit, from actual motion of valve, to the same force as the instrument air pressure. As bellows is always returned to its original position, bellows characteristics do not enter into calibration thereby insuring linear valve travel. Bellows and pilot are self-contained unit without any levers to introduce friction and cause errors.

**Description**—Unit has heavy aluminum case, suitable for outdoor use. Heavy calibrated loading spring, in addition to operating pilot bellows, always acts in same direction to take up any back lash in lever connections. Adjustments for valve strokes of from 1/2" to 2 1/2" and for setting zero are readily accessible.

**MÖORE PRODUCTS CO.**, Dept. CEP, 3629 Lawrence Ave., Philadelphia, Pa.

When inquiring specify CEP3252 — see information request blank, pgs. 24-25

### Furnace Pressure Control System

Fully-illustrated, 12-page booklet presents an industrial furnace pressure controller which has its mechanism housed in a flush-mounting, instrument-type case, with a built-in selector switch, push-button station and handy control-setting device. Many schematic drawings and photos are used to describe this furnace control system for metallurgical and other industrial furnaces. Catalog N-01A-600 is available on request.

**LEEDS & NORTHRUP CO.**, Dept. CEP, 4999 Stenton Ave., Philadelphia, Pa.

When inquiring specify CEP3253 — see information request blank, pgs. 24-25

To get **CHEMICAL EQUIPMENT PREVIEW** for your key men, see 'request slip' . . . page 24 and 25.

*Here is your free*

## "FIVE BOOK SHELF"

*of useful information on*  
**PRESSURE REDUCING  
REGULATORS**



*Application*  
*Features*  
*Operation*  
*Installation*  
*Inspection and Care*  
*Parts, Dimensions and Weights*

Are you having trouble with automatic valves in your plant — ragged regulation, constant cleaning, repeated repairs and replacements? Have you a pressure regulating problem that hasn't been licked—a service that has been "just too much" for the average automatic valve?

There may be a practical and profitable solution to your problem in these five catalogs covering twenty-three types of Foster Pressure Regulators, for their content is not limited to "sales story." Such sections as those on application, operation, installation, and inspection make these catalogs virtually handbooks of useful information.

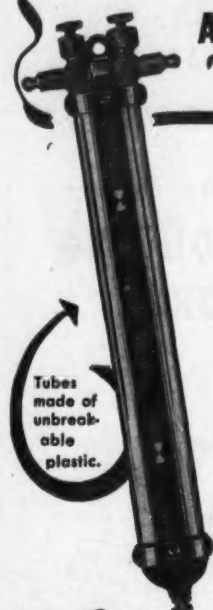
Send for your set. There's no cost or obligation. Simply ask for Bulletins 1-A, 2, 5, 7, and 10 (on your company letterhead, please) and if you want facts on pressure regulator selection, ask for Bulletin 31.

**FOSTER ENGINEERING**  
 116 MONROE STREET, NEWARK, N. J. *Company*

9-FB-3

When inquiring specify CEP3254 — see information request blank, pgs. 24-25

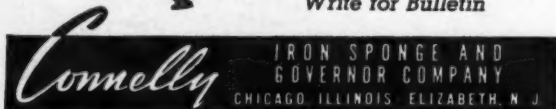
## CONNELLY MANOMETERS ARE BUILT TO "Take it"



Drop 'em on the floor — toss 'em in with your tools — treat 'em rough. They'll stand the gaff and come up smiling. For Connelly Heavy Duty Manometers are sturdy — rugged — with unbreakable plastic tubes.

They're inexpensive, yet precision made to highest standards. Easy reading, etched metal scale is zero adjustable. Designed for either portable or stationary use, with or without valves, in a wide range of styles and sizes. Specify whether water or mercury is to be used.

Write for Bulletin



When inquiring specify CEP3255 — see information request blank, pgs. 24-25

## \$6200 SAVED YEARLY By Using G-E Time Switches



General-purpose time switch (Type T-44)

Here are facts about the savings made by G-E time switches in our West Lynn factory:

Number of switches . . . . . 164  
Installation cost . . . . . \$3645  
Yearly savings . . . . . \$6200

These time switches save operators' time by turning ovens on and off at exactly timed intervals, by operating conveyors, and by controlling drying and curing processes.

### TIME SWITCHES BOOST OUTPUT

Savings can also be expressed in terms of increased output. Time switches can turn on heating units so they'll be ready for use when workers arrive. They can time machine operations, freeing operators for productive work—often doubling their output.

There is a G-E time switch available for every purpose. Ask the nearest G-E office for recommendations. General Electric, Schenectady, N. Y.

**GENERAL ELECTRIC**

When inquiring specify CEP3256 — see information request blank, pgs. 24-25

## INSTRUMENTS

### Accurate Viscosity Test in 30 Secs.

G-E Zahn viscosimeter, for use on production line, requires no special operating skill

**Uses**—Accurate control of viscosity of finishing materials such as paint, varnish, lacquer, or japan, is principal use for this instrument. Oil companies also have use for instrument.

**Features**—Simple, inexpensive method of making accurate viscosity measurements. Not necessary to clean instrument after each reading if it remains in material between readings. No special skill is required to operate it. Accurate measurements can be made in about 30 seconds. Positive indication of the end of interval of flow is given by sudden break in flow of liquid from base of cup. No fuzzy readings because of bubbles, which occur when gage glasses are used. Durable, one-piece construction of cup reduces breakage possibility.



VISCOSIMETER makes tests in 30 seconds

**Operation**—Viscosimeter is usually left in material between readings so that instrument assumes temperature of material being measured. When a reading is taken, cup is simply lifted out of liquid and a timer is started as it leaves the surface. Liquid flows through calibrated orifice in bottom of cup, and timer is stopped when stream flowing through orifice suddenly breaks. Time of flow gives an accurate viscosity indication.

**Description**—Instrument consists of bullet-shaped cup, made of steel, with capacity of about 44 cubic centimeters. Cup is suspended by a 12" looped handle in liquid to be measured. Small ring at top end of looped handle allows operator to hold cup in an exact vertical position. Cup is drawn from a single piece of steel, and is plated with copper, nickel, and chromium to make it corrosion resistant.

GENERAL ELECTRIC CO., Schenectady, N. Y.

When inquiring specify CEP3257 — see information request blank, pgs. 24-25

### Feed Water Chemistry

Twelve-page booklet gives fundamental reactions involved in water softening and should be helpful in interpretation of a water analysis. One particular section deals with "Ionic analysis" and with "equivalents per million," and principles of this method's use are relatively simple and clearly set forth in these pages. Another section contains list of chemical reactions frequently referred to in treatment of feed water. Publication 3006 is available.

COCHRANE CORP., Dept. CEP, 17th & Allegheny Ave., Philadelphia, Pa.

When inquiring specify CEP3258 — see information request blank, pgs. 24-25

## AN IMPORTANT MESSAGE TO MIDGET PUMP USERS

In many instances Eastern Midget Pumps, with their high capacities and small space requirements, effectively replace larger, more cumbersome models—with a consequent saving of vital defense materials such as Monel metal, stainless steel, Chromium plated bronze and Hastelloy.

Illustrated—Model "E".

Type: ..... Centrifugal  
Size: ..... 6" x 3" x 3"  
Weight: ..... 6 lbs.  
1/20 H.P. fan cooled Universal motor.  
115 volts D.C. or 25-60 cycles A.C.  
Maximum capacity: ..... 7 1/2 gals. per min.  
Maximum pressure: ..... 20-25 lbs. per sq. in.



Prices F.O.B. New Haven, Conn.  
Midget Pump prices begin at \$20.35 for Chromium plated bronze, and \$23.65 for Monel metal or stainless steel.

Air driven, belt driven and Underwriters' approved explosion-proof units also available in midget sizes, and in various metals and alloys.

### EASTERN ENGINEERING COMPANY

49 Fox St.

New Haven, Conn.

When inquiring specify CEP3259 — see information request blank, pgs. 24-25

## NEW!

### WATER STILL CATALOG

We've just published a 24-page catalog we believe you'll want to study and keep for reference. It contains comparative cost figures for operating Single-Effect and Multiple-Effect Stills, also for heating by steam, gas and electricity. It has information on purity of distillate, illustrates how stills operate, how volatile gases and solids are removed, tells why Multiple-Effect Stills cost only one-half to one-eighth as much to operate as Single-Effect Stills.

This is a complete catalog of Stokes Stills, from 1/2-gal. Laboratory models to industrial stills to produce 5 thousand gallons per hour. Your copy will be mailed on request.

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Olney P. O.

Philadelphia, Pa.

Representatives in New York, Chicago, Cincinnati, St. Louis, Cleveland, Detroit  
Pacific Coast Representative: L. H. Butcher Company, Inc.

**F.J. Stokes**

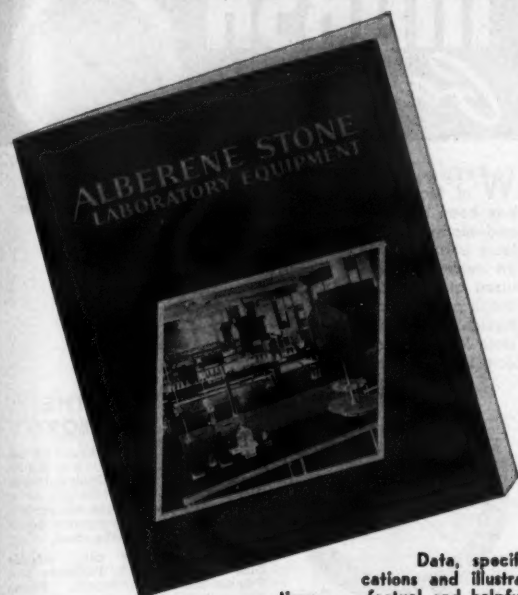


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CHEMICAL EQUIPMENT PREVIEW



**SEND FOR THIS NEW CATALOG!**



Data, specifications and illustrations . . . factual and helpful. . . about Alberene Stone, the material that outlasts the building.

**ALBERENE STONE CORP. OF VIRGINIA**  
419 4th Avenue, New York

When inquiring specify CEP3261 — see information request blank, pgs. 24-25

**ECONOMIZE WITH POWERS THERMOMETER-REGULATORS**

SELF OPERATING TYPE

Controls Heating or Cooling Mediums

**TWO INSTRUMENTS IN ONE**—Combining a temperature regulator with an indicating thermometer gives a visual check on the performance of the regulator and makes it easy to adjust it for the required operating temperature.

**EASY TO INSTALL**—Both thermometer and regulator operate from the same thermal system.

Write for Circular 3505

THE POWERS REGULATOR CO., 2706 Greenview Avenue, CHICAGO—231 E. 48th Street, NEW YORK—Offices in 47 Cities. See your phone book.

**45 Years** **POWERS**  
of Automatic Temperature and Humidity Control

When inquiring specify CEP3262 — see information request blank, pgs. 24-25

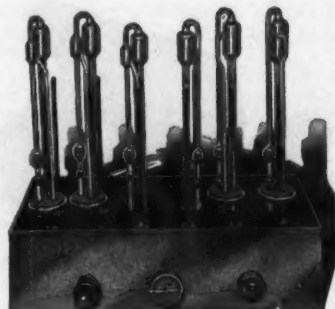
## INSTRUMENTS

### Kinematic Viscosity Cleaning Unit

*Cleaning fluid sprayed through vertically extended metal capillary tubes*

**Uses**—This cleaning and drying apparatus was primarily designed for glass viscosimeters for determining kinematic viscosity, but it is also adaptable for use in cleaning other types of laboratory glassware such as test tubes, pipettes, etc.

**Description**—Tubes to be cleaned are placed over and supported by vertically extended metal capillary tubes through which the cleaning fluid is sprayed. Drying is accomplished by passing air under pressure through the tubes. Pressure is regulated by means of special valves, and amount of pressure may be closely controlled and observed. Provision is made for first connecting the spray line to vessel containing the cleaning fluid. Then by adjusting valves, air is forced through tubes. To prevent excessive use of solvent or cleaning fluid, a spring type valve is used which closes when valve handle is released.



LABORATORY TUBE  
cleaning apparatus

C. J. TAGLIABUE CO., Dept. CEP, Park & Nostrand Aves., Brooklyn, N. Y.

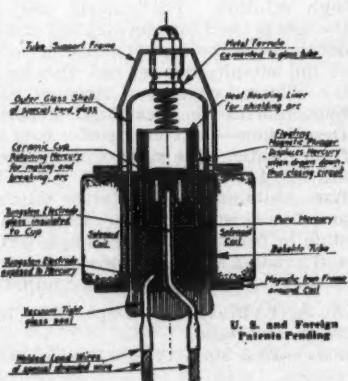
When inquiring specify CEP3263 — see information request blank, pgs. 24-25

### Normally-Closed Relay

*Compression spring keeps plunger immersed and contacts flooded until solenoid is energized*

**Uses**—For use in normally-closed position. Contacts are rated at 30 amp. on 110-volt, 20 amp. on 220-volt ac. Corresponding ratings for dc application are 5 and 2½ amp. In latter case, mercury switch uses an inert gas to suppress the dc arc.

**Description**—Relay consists of a solenoid surrounding a glass-enclosed mercury switch in which a magnetic plunger displaces mercury to open and close the contacts. New design uses compression spring at top of plunger to keep it immersed and contacts flooded until solenoid is energized to lift plunger out of mercury against spring action. Solenoid current is 4 watts on 110-volt, 60 cycle ac. Type MP is designation.



RELAY, normally-closed type

H-B ELECTRIC CO., Dept. CEP, 2506 N. Broad Street, Philadelphia, Pa.

When inquiring specify CEP3264 — see information request blank, pgs. 24-25

## WOMEN IN INDUSTRY



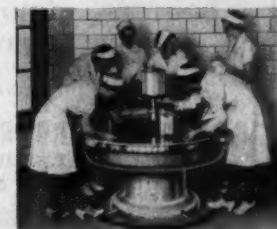
**ARE YOU PROVIDING ADEQUATE & SANITARY WASHING FACILITIES?**

Bradley Washfountains are ideal where women are employed from the standpoint of sanitation alone, since each user washes in clean, running

water. But Bradleys also provide more washing facilities in a given space, and each fixture serves a group of 8 to 10 persons simultaneously. Piping and piping connections are 85 to 90 per cent less than with conventional single-person wash basins; installation time is cut, and consumption of water is reduced by 70 per cent.

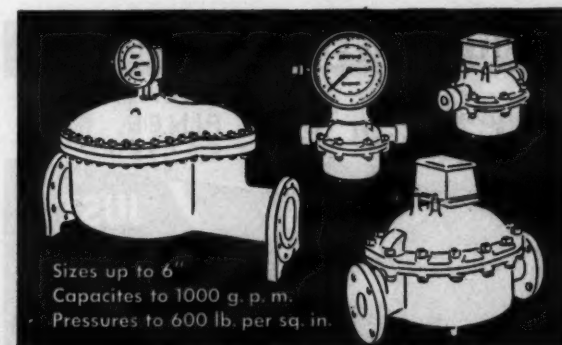
Our Washroom Consultants will help lay out your washrooms. Their recommendations are yours for the asking . . .

**BRADLEY WASH-  
FOUNTAIN CO.,**  
2257 W. Michigan  
Street, Milwaukee,  
Wis.



**BRADLEY  
WASHFOUNTAINS**

When inquiring specify CEP3265 — see information request blank, pgs. 24-25



Sizes up to 6"  
Capacities to 1000 g. p. m.  
Pressures to 600 lb. per sq. in.

**STOP LOSSES, CUT COSTS  
IMPROVE EFFICIENCY**

**—Install EMPIRE METERS**

Bulletin 621 tells all about them . . . and how to order a meter for your particular purpose. Write for your copy of this booklet.

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OF  
PITTSBURGH EQUITABLE METER COMPANY  
4295 First Avenue, Brooklyn, N. Y.

**Empire METERS**

When inquiring specify CEP3266 — see information request blank, pgs. 24-25



**NEW Boot and  
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Now Available!**

Shows the Complete  
Line of Dependable

## GOODALL WATERPROOF CLOTHING

The following are a few of the items described  
for workers in Chemical Plants:

**"TRIPLE-S" BOOTS LOW ACID SHOES  
BOOTEES ACID SUITS APRONS  
RUBBER GLOVES HATS**

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MILLS: TRENTON, N. J. EST. 1873



Branches and Distributors from Coast to Coast

When inquiring specify CEP3267 — see information request blank, pgs. 24-25

## Sifts at Amazing Speed

for Any  
Materials

**CLEANER  
FINER  
EASIER**

**JUST  
OUT  
YOUR  
FOR THE  
ASKING**

This bulletin is based on results obtained in sifting powders of all kinds, any mesh, right in the production line of such companies as Calco, Carbide & Carbon, General Chemical, Monsanto, Borden & Co., General Electric, Eagle-Picher Lead, Bayer Co., Bristol Meyers, Parke-Davis, U. S. Rubber and others. And what results! Time savings of 25 to 75% over any other method of screening. Greater percentage of "fines." Less power, labor, space. For economy's and quality's sake you'll want the whole story. Write to Abbé Engineering Co., 40 Church St., New York, N. Y.

## ABBÉ-BLUTERGESS TURBINE SIFTER

When inquiring specify CEP3268 — see information request blank, pgs. 24-25

## INSTRUMENTS

### Glass-Electrode pH Indicator

Self-contained; retains full accuracy to 85 deg. F. in 95% relative humidity atmosphere



pH INDICATOR uses  
glass-electrode

Uses—Can be used in practically all plant tests and has as much accuracy as is needed in many laboratory measurements.

Features — Instrument is entirely self-contained, portable. Adjustments take but a moment. Retains full accuracy up to 85° F. In atmospheres of 95 per cent relative humidity. Measurements are

made simply pouring a sample into a self-contained beaker, and reading pH directly from the meter scale. Manual temperature compensator eliminates compensations, saves time, prevents errors, and makes instrument direct-reading from 0 to 50° C. Low cost instrument.

Description—Adequately shielded, instrument embodies a rugged deflection meter and a thermionic amplifier of high stability. Factory filled and sealed electrodes are highly stable. Has separate scales calibrated 0 to 8 and 6 to 14 pH, thus covering entire range with overlap of 2 pH (a convenience in titrations). Mahogany case is ruggedly built for rough plant use. Catalog E-96(2) contains complete description.

LEEDS & NORTHRUP CO., Dept. CEP, 4999 Stenton Ave., Philadelphia, Pa.

When inquiring specify CEP3269 — see information request blank, pgs. 24-25

### Super Chlorimeter

For determining chlorine at high dilution; color standards guaranteed not to fade

Uses—Laboratory apparatus for determining chlorine at high dilution. Particularly use when prechlorination process is used for sterilization and removal of tastes and odors, as in the manufacture of soft drinks. By dilution of the sample, the set can also be used for determining the chlorine content of stronger solutions of chlorine or hypochlorite for bleaching, sterilizing and disinfecting. Description—Set consists of a base and slide both molded from plastic. The slide contains 9 standards representing 0.2, 0.5, 1.0, 1.5, 2.0, 3.0, 4.0, 6.0 and 8.0 ppm of chlorine. Base contains 2 vials of ortho toluidine with 0.5 cc pipette, and five 5 cc test tubes. Determinations are made with slide in front of the test sample until a match is obtained and reading the chlorine content from the values on the slide. Color standards have unlimited fading guarantee.

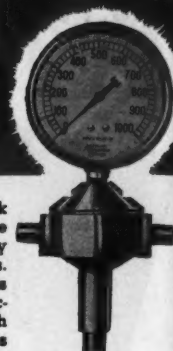
W. A. TAYLOR CO., Dept. CEP, 7300 York Road, Baltimore, Maryland.

When inquiring specify CEP3270 — see information request blank, pgs. 24-25

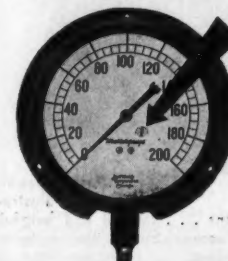


SUPER CHLORIMETER for high dilution chlorine

# MARSH Gauges



WHEN you need a gauge think of Marsh. For the Marsh name has been a symbol of gauge accuracy and stamina for more than 75 years. Here is a complete line—one that holds an answer for every application. Pictured at right is the Marsh gauge with diaphragm attachment. It keeps viscous liquids from clogging the gauge—protects foodstuffs and other delicate products from contamination.



### LOOK FOR THE "RECALIBRATOR"

Any gauge can be knocked out of adjustment. But if it's a Marsh Gauge, with the exclusive Marsh "Recalibrator", the twist of a screwdriver wipes out all error—makes the gauge accurate again at every point on the dial.

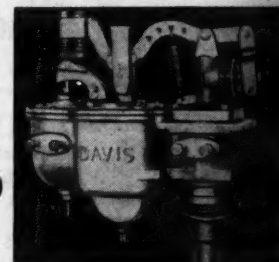
Marsh products also include Dial Thermometers, Pressure and Temperature Recorders, Steam Traps, Radiator Valves and Traps and other heating specialties. Write for bulletins.

**JAS. P. MARSH CORPORATION**  
2095 Southport Ave., Chicago, Ill.

When inquiring specify CEP3271 — see information request blank, pgs. 24-25

## Positive, Automatic TWO-STEP FLUID FLOW CONTROL

with the  
**DAVIS  
No. 97TH  
SOLENOID  
VALVE**



WHEREVER processing requires proportioning or throttling of liquid flow, there is a potential time and money saving use for the Davis No. 97TH Two-Step Solenoid Valve. One solenoid opens the single-seated, pilot-stem valve wide for full, practically unrestricted flow. The second solenoid throttles the flow to any predetermined degree desired. Valve closes tight without sticking. Dia-Ball Patented Packless Head eliminates packing maintenance and handles highly volatile liquids without leakage. All parts readily removable for cleaning. Sizes from 1/4" to 2". Body and trim in bronze, stainless steel, monel or nickel. Write for Bulletin S-1, containing complete data on No. 97TH and other Davis Solenoid Valves for all types of electrical control service. DAVIS REGULATOR COMPANY, 2562 South Washtenaw Avenue, Chicago, Illinois.



**DAVIS  
REGULATOR CO.**

When inquiring specify CEP3272 — see information request blank, pgs. 24-25





**Keep the Wheels Turning with  
AJAX FLEXIBLE COUPLINGS**

This is no time for shutdowns! Safeguard your production with Ajax Flexible Couplings! Their exclusive, rubber bushed, bronze bearings combine positive drive, resilient protection against misalignment, free end float, no lubrication problem, no noise, no backlash. Sizes from 1/2 inch bore up. Write for Catalog.

**AJAX FLEXIBLE COUPLING CO.**  
201 English St. Westfield, N. Y.

When inquiring specify CEP3273 — see information request blank, pgs. 24-25

## INSTRUMENTS

### Electric-Eye Smoke Control Robot

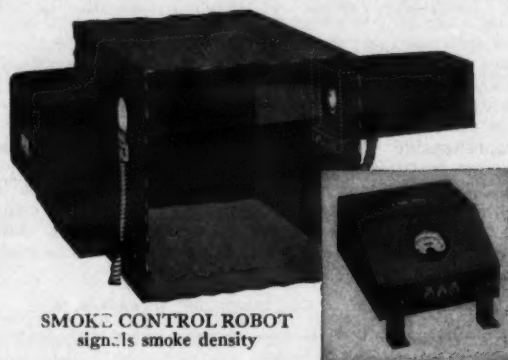
*Easily installed on any type and size boiler;  
meter indicates smoke density at all times*

**Uses**—For smoke indication and combustion control on any type and size boiler; stoker or hand-fired coal burning with any grade coal, or oil-burner fired.

**Features**—Illuminated meter indicates smoke density at all times; gives signal when smoke exceeds maximum allowable density. Increases boiler efficiency — effects fuel saving, cuts flue cleaning and soot removal costs. Operating cost is negligible.

**Performance**—Maker states that on installations of Model SC-302, on both large and small boilers, fuel saving as high as 20% has been shown.

**Description**—Made in two models: SC-301 is the indicator signal type in which the density meter continuously indicates smoke density in breeching or stack and pro-



SMOKE CONTROL ROBOT  
signals smoke density

vides for bell or light signal when smoke exceeds maximum allowable density. Includes robot and light projector. Model SC-302 provides automatic control of smoke elimination equipment. Has all features of Model SC-301 plus full automatic control for magnetic solenoid valve or blower motor supplying steam/air to over-fire jets. Adjustable time-delay on load circuit insures correct amount of steam/air to mix with unburned gases and supply oxygen deficiency which causes smoke to burn in firebox. Robot is housed in heavy gauge steel container, 7 1/4" wide, 10 1/2" high and 5 1/4" deep, with hinged cover. Operates on 115 volt a.c. or d.c. Form 542 contains complete specifications.

RHETRON CORP., Dept. CEP, 2159 Magnolia Ave., Chicago, Ill.

When inquiring specify CEP3275 — see information request blank, pgs. 24-25

### Thermocouple Data Book and Manual

A fact-packed, 32-page booklet is a complete manual for thermocouple users. Included is such information as temperature conversion tables, millivolt tables, pipe and wire sizes, decimal equivalents, wire resistances, recommendations for checking thermocouples and pyrometers, and the important feature of how to construct thermocouples. Descriptions are given for a complete line of thermocouples and accessories. Prices are included and data so arranged that thermocouples can be ordered direct from this book. Bulletin No. S2-3 is available on request.

WHEELCO INSTRUMENTS CO., Dept. CEP, Harrison & Peoria Sts., Chicago, Ill.

When inquiring specify CEP3276 — see information request blank, pgs. 24-25

Turn to pages 24-25. Request slip sent to publisher will bring you more information about products described in this issue.



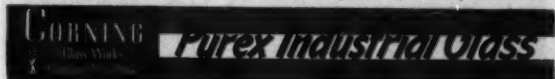
### NOT ONE CENT FOR MAINTENANCE

Here is a Pyrex Piping laboratory drain line installed above a false ceiling. No provision is made in the ceiling for repairs or replacement of the pipe because similar drain line installations in chemical laboratories have been subjected to the attack of every chemical poured down the drain for over ten years without a single cent of maintenance cost.

That's proof of the remarkable chemical resistance of Pyrex brand Glass to acids and alkalis in solution (except HF). It's also proof of resistance to thermal shock. It demonstrates that Pyrex Pipe Lines will cost less in the long run.

Benefit by the experience of Corning Engineers. Write to Corning Glass Works, Corning, N. Y.

"PYREX" is a reg. trade-mark and indicates manufacture by Corning Glass Works



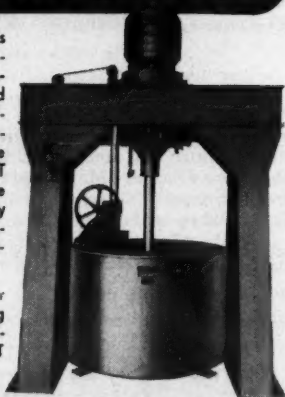
When inquiring specify CEP3277 — see information request blank, pgs. 24-25

## How to INCREASE PRODUCTION

ON  
SEPARATING • CLARIFYING  
DEHYDRATING • THICKENING  
FILTERING • DRAINING

Chemical plants, powder mills and ordnance plants are depending on TOLHURST Suspended Centrifugals to speed production. Applying centrifugal force (from several hundred to thousands of times the force of gravity) TOLHURST Centrifugals save time, save floor space—insure uniformity of product. Investigate TOLHURST for increasing production in your plant.

**FREE BOOK.** Write today for Catalog No. 937 containing complete details on the application of TOLHURST Centrifugals!



**TOLHURST**  
SUSPENDED CENTRIFUGALS  
American Machine and Metals, Inc.  
1900 Tolhurst St., East Moline, Ill.

When inquiring specify CEP3274 — see information request blank, pgs. 24-25

## DEMING

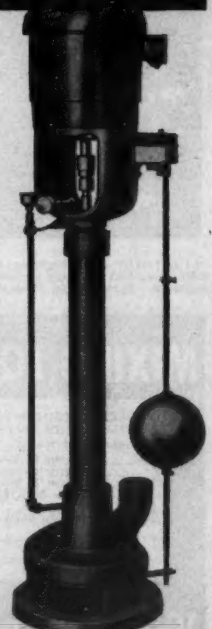
### Sump Pumps

Deming Sump Pumps are designed in a wide range of types and capacities to meet practically all requirements for pumping heavy viscous or high temperature liquids from pits, tanks, vats, etc; pumping drainage water from pits; pumping screened sewage, etc.

The unit illustrated (Fig. 4608) is designed to meet the demand for an inexpensive but thoroughly reliable sump pump for conditions where regular models are larger than needed and standard cellar drainers are too small.

Capacities of the complete line of Deming Sump Pumps range from 10 g. p. m. to 3200 g. p. m. with heads up to 120' and speeds from 860 to 1750 R. P. M. for motor drive.

For complete details and performance tables, send for free illustrated Bulletin No. 4603.



THE DEMING COMPANY • SALEM, OHIO

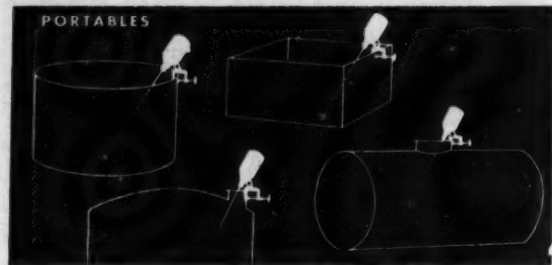
When inquiring specify CEP3278 — see information request blank, pgs. 24-25

## WHEN YOUR MIXING BOTTLE-NECK IS THE BOTTLE ITSELF

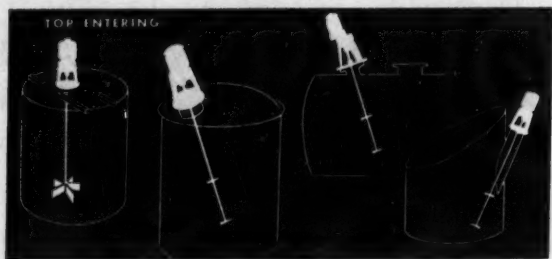
With the addition of a "LIGHTNIN" Mixer, any tank or vessel in your plant becomes a complete mixing unit.

"LIGHTNIN" flexibility permits you to meet today's difficult delivery situations by adapting any of your present tanks to mixing use and permits putting discarded tanks back into service. Other plants, able to obtain tanks only in sizes and materials, or gage other than specified, find the addition of a "LIGHTNIN" Mixer gives a completely dependable answer to this problem.

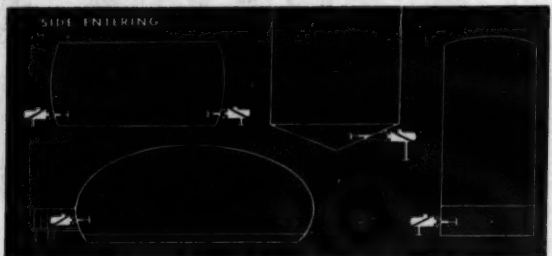
Whether your mixing problem involves new tanks or old, consult our Engineering Department. We will gladly make our experience available to you.



"LIGHTNIN" Portable Mixers are attachable to the rim of any shape tank. Many special modifications. Easily moved from tank to tank. Available in both geared and direct drive in sizes from 1/4 to 10 H.P.



"LIGHTNIN" Top Entering Mixers are available in both geared and direct drive models for closed tanks up to 15 H.P. Also available for pressure or vacuum use. Off-center location gives maximum usable tank top.



"LIGHTNIN" Side Entering Units, (geared or direct drive), are used for large scale operations or where no head room is available. Extremely simple to install and maintain. Sizes up to 25 H.P.

## MIXING EQUIPMENT CO., INC.

MIXING EQUIPMENT COMPANY, INC.  
1085 GARSON AVENUE, ROCHESTER, N. Y.

Please send me:

- ☐ Bulletin B-48—Top Entering Mixers
- ☐ Bulletin B-45—Portable Mixers
- ☐ Bulletin B-66—Side Entering Mixers
- ☐ Mi-11—MIXING PROBLEM WORK SHEET

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

1085 Garson Ave. Rochester, N. Y.

When inquiring specify CEP3279 — see information request blank, pgs. 24-25

## NEW LITERATURE . . . .

### Handbook for Material Handling

54-page, 8 1/2 x 11 handbook, prepared as practical guide for the analysis of material handling operations and the application of industrial power trucks. The handbook is well illustrated and offers a comprehensive survey of material handling operations. General subjects include material handling in industrial management, material handling management, organizing an industrial truck handling system, and practical truck engineering. Under each general section are included many practical ideas and suggestions for material handling operations. Considerable engineering data are included as well as two indexes, a bibliography and an appendix. Handbook is available on request.

INDUSTRIAL TRUCK STATISTICAL ASSOCIATION, Dept. CEP, 208 S. La Salle St., Chicago, Ill.

When inquiring specify CEP3280 — see information request blank, pgs. 24-25

### Engineering Data on Single-Stage, Double-Suction Centrifugal Pumps

Comprehensive 40-page, three-color catalog gives construction features, pump dimensions, normal and special application data and much valuable engineering data including, friction tables, head-capacity tables, information on how to figure pumping head, filtration in water pipes, constants and rules, etc. Bulletin B-6146 is available on request.

ALLIS-CHALMERS MFG. CO., Dept. CEP, Milwaukee, Wis.

When inquiring specify CEP3281 — see information request blank, pgs. 24-25

### Continuous Flow System for Loose-Materials Handling

Twenty-four-page, two-color catalog illustrates and describes completely this bulk-flow system for conveying loose materials. Design and operating advantages are shown in one section and several typical arrangements are shown, all by means of line drawings. Assemblies of the basic sections are given with major dimensions. Several pages show schematic drawings of typical installations with photos of equipment in use. Long list of products conveyed by these units is shown, as are detailed capacity tables of various models. Book Number 1975 is available on request.

LINK-BELT CO., Dept. CEP, 307 N. Michigan Ave., Chicago, Ill.

When inquiring specify CEP3282 — see information request blank, pgs. 24-25

### Dust Collectors

Eight-page, two-color booklet describes four main types of dust collectors. Specifications and complete details are given for each model. Large photos show equipment to advantage and line drawings show operating features. Booklet is available on request.

RICHMOND MFG. CO., Dept. CEP, Lockport, N. Y.

When inquiring specify CEP3283 — see information request blank, pgs. 24-25

### "Washfountains and Multi-Stall Showers"

Attractive 5 1/2 x 8 1/2-inch booklet uses many photographs to display maker's products. A wide variety of applications are shown with products in use, with only brief explanatory legends. Booklet is available on request.

BRADLEY WASHFOUNTAIN CO., Dept. CEP, 2267 West Michigan St., Milwaukee, Wis.

When inquiring specify CEP3284 — see information request blank, pgs. 24-25

### Tools and Tool Sets

One hundred and four-page, large size catalog illustrates 1169 tools and 74 complete tool sets. Catalog covers a complete line of tools, including a huge variety of wrenches of all types, wheel pullers, pliers, gauges, hack saws and blades, files, tubing cutters and benders, screw drivers, hammers and a number of specialized tools. Complete specifications and informative details are given for all types and large photos show products to advantage. Catalog is indexed numerically and alphabetically. Catalog No. 41 is available on request.

BONNEY FORGE & TOOL WORKS, Dept. CEP, Allentown, Pa.

When inquiring specify CEP3285 — see information request blank, pgs. 24-25

### World Aviation Data and Statistics

"Aerosphere 1941" is a practical daily working tool for the aviation industry and a comprehensive source of information for all interested in world aviation events. Handsome book is buckram bound, 948 pages, 8 1/4" x 11 1/4" x 1 1/8", contains over 900 photographs. 320 pages give full description of design, construction, and performance of hundreds of planes. 160 pages show engines for all types. General aviation statistics—passenger miles flown, speed and endurance records, engine production, accidents, etc., are included in another section. Buyers guide lists names and addresses, principal personnel and products of all firms engaged in aircraft manufacture throughout the world. Price is \$10.00 (plus shipping charges).

AIRCRAFT PUBLICATIONS, Dept. CEP, 370 Lexington Ave., New York, N. Y.

When inquiring specify CEP3286 — see information request blank, pgs. 24-25

### Data Book On Power Assembly Tools

Fifty-six page, large size, two-color book provides much data on power assembly tools, plus valuable information as to sizes of pilot holes; bolt, nut, cap screw and lag screw sizes; socket wrenches; tap drill sizes, etc. Many large photos show individual products, and tables provide other data. One important section shows, with drawings, the factors in selecting a power tool. Booklet is available on request.

BLACK & DECKER MFG. CO., Dept. CEP, Towson, Maryland.

When inquiring specify CEP3287 — see information request blank, pgs. 24-25

### Pre-Cast Bearing, Bronze on Steel

Four-page folder describes in detail these pre-cast bearings, bronze on steel. Photos show various sizes and shapes available. Major portion of folder describes how these pre-cast bearings and bushings are made. Bulletin is available on request.

JOHNSON BRONZE CO., Dept. CEP, 508 South Mill St., New Castle, Pa.

When inquiring specify CEP3288 — see information request blank, pgs. 24-25

### Process Equipment — Agitators, Blenders, Mixers, Digesters, Ball & Pebble Mills

Twenty-eight-page-and-cover catalog effectively illustrates and describes many types of processing equipment. Many large photographs and tables of specifications are used to display this equipment.

H. K. PORTER CO., Dept. CEP, Pittsburgh, Pa.

When inquiring specify CEP3289 — see information request blank, pgs. 24-25



## PRODUCTION IDEAS AND DATA

### Pipe Hangers, Floor and Ceiling Plates

Compact, 75-page catalog shows many types of pipe hangers, floor and ceiling plates, and allied articles. Contains helpful data, dimensions, detail drawings and illustrations of this complete line. General index is supplemented with a numerical index for simple reference. Catalog "J" is available on request.

GRABLER MFG. CO., Dept. CEP, 6565 Broadway, Cleveland, Ohio.  
When inquiring specify CEP3290 — see information request blank, pgs. 24-25

### Contour Sawing Handbook

One hundred and fifty-eight-page handbook, bound with stiff fabricoid cover, contains complete information on contour sawing and its application. Many illustrations and guide charts cover all phases of contour sawing and filing of metals to any desired shape. One comprehensive section gives 50 examples of how to cut machining costs. Book is bound, indexed and covered in textbook style with added feature which permits pages to lie flat at any opening. Book is available on request.

CONTINENTAL MACHINES, INC., Dept. CEP, 1301 Washington Ave., South, Minneapolis, Minn.

When inquiring specify CEP3291 — see information request blank, pgs. 24-25

### Mechanical Seal That Rotates With Shaft

Four-page, two-color bulletin illustrates and describes these mechanical seals for centrifugal, rotary pumps, agitators and wherever the sealing highly volatile, gritty and/or corrosive liquids are being worked. Large photos show seal and how it rotates with the shaft. Major features are starred, and a list of applications with details is shown. Booklet is available on request.

DURAMETALLIC CORP., Dept. CEP, Kalamazoo, Mich.

When inquiring specify CEP3292 — see information request blank, pgs. 24-25

### Safety Shoe Buyers' Guide

Twelve-page, three-color booklet shows 43 types of safety shoes, with special sole constructions for every industry and every type of floor condition. Included is a safety shoe buyers' guide with complete information on what to specify in buying safety shoes. Detailed construction features are shown for several models using large, clear photos. Bulletin is available on request.

LEHIGH SAFETY SHOE CO., Dept. CEP, Allentown, Pa.

When inquiring specify CEP3293 — see information request blank, pgs. 24-25

### Ten Ways to Save With Heat Treating Baths

Eight-page, two-color folder shows ten ways to save time and labor with these heat treating baths. Remainder of booklet shows various models of these heat treating baths and gives complete specifications with details of operation for each type. Booklet is available on request.

A. F. HOLDEN CO., Dept. CEP, New Haven, Conn.

When inquiring specify CEP3294 — see information request blank, pgs. 24-25

### Hydraulic Lift Truck

New two-color, four-page folder gives specifications for several models of these hydraulic lift trucks. Important features are described in detail and shown with spot drawings. Several application photos are shown. Bulletin No. 123 is available on request.

LYON IRON WORKS, Dept. CEP, Greene, N. Y.

When inquiring specify CEP3295 — see information request blank, pgs. 24-25

### Wire Rope Handbook

One hundred and seventy pages make up this handy, pocket-size, plastic bound wire rope handbook. Book is sectionalized for quick reference with a tabbed index and table of contents for each section. 60 pages of general information, scores of tables, much engineering data, etc. form an important part of the handbook. More than 1000 ropes are listed for all types of applications. Catalog G-14 is available on request.

MACWHYTE CO., Dept. CEP, Kenosha, Wis.

When inquiring specify CEP3296 — see information request blank, pgs. 24-25

### Porcelain Valves, Pipes, Fittings, etc.

Three large size bulletins in folder cover describe in detail chemical porcelain valves, pipes, fittings and raschig rings, and review the characteristics of this material for handling acids and contaminating agents. Bulletins point out that the porcelain is unaffected by any acids except HF and is relatively resistant to alkalis, has zero porosity and smooth white glaze for easy cleaning and freedom from contamination. Bulletins 196, 197 and 198 are available on request.

LAPP INSULATOR CO., INC., Dept. CEP, 946 Margaret St., Le Roy, N. Y.

When inquiring specify CEP3297 — see information request blank, pgs. 24-25

### Waterproof Clothing Catalog

Twelve-page catalog, bound in silver Metaloid, is used to describe 150 styles of waterproof clothing, with 54 illustrated. Included are safety, sporting and regular boots; service coats and work suits; rubber and oiled clothing, aprons, hats; rubber blankets and gloves. Catalog No. 203 is available on request.

GOODALL RUBBER CO., INC., Dept. S, 5 South 36th St., Philadelphia, Pa.

When inquiring specify CEP3298 — see information request blank, pgs. 24-25

### Consulting Service for Defense Modernization, Government Reports & Expansion Financing

Four-page leaflet outlines broader services offered by firm of consulting engineers to meet special requirements of new Government reports, to modernize plants for defense work, to finance expansions, etc. Leaflet and other information are available on request.

E. J. CHENEY & CO., Dept. CEP, 61 Broadway, New York, N. Y.

When inquiring specify CEP3299 — see information request blank, pgs. 24-25

### Industrial Chemicals and Dyestuffs

Thirty-two-page, pocket-size booklet is a catalog of hundreds of items handled by this firm—chemicals, solvents, dyestuffs, gums, waxes, oils, soaps, alcohols, etc. Available on request.

EATON-CLARK CO., Dept. CEP, 1400 Franklin St., Detroit, Mich.

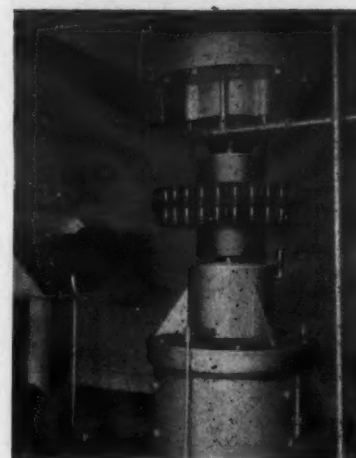
When inquiring specify CEP3300 — see information request blank, pgs. 24-25

### Unit Type Dust Collectors

Six-page folder displays a "family" of dust collectors. Several typical installations are shown. Major features of these units are discussed and pictured separately. Bulletin 907 is available on request.

PANGBORN CORP., Dept. CEP, Hagerstown, Maryland.

When inquiring specify CEP3301 — see information request blank, pgs. 24-25



DIAMOND  
Flexible Coupling  
on Brewery  
Mash Mixer

## All-Purpose Flexible Coupling

For miscellaneous motor to shaft and shaft to shaft connections — and as standard equipment on machinery — the simplicity and durability of DIAMOND Couplings insure long life trouble-free performance.

Consisting of two sprockets and a length of two strand DIAMOND Roller Chain, they are easy to install and disconnect. They are fully described in Bulletin 12. DIAMOND CHAIN & MFG. CO., 411 Kentucky Avenue, Indianapolis, Indiana. Offices and Distributors in All Principal Cities.

## DIAMOND FLEXIBLE COUPLINGS

When inquiring specify CEP3302 — see information request blank, pgs. 24-25

When it's Shut Off  
it's BOTTLE-TIGHT

THE DIAPHRAGM DOES IT!

This Valve won't stick, clog, leak, break or corrode. Its working parts are isolated from the flow. It solves the problem of handling corrosive liquids or gases. Heavy semi-solid or viscous substances can be easily piped through the unrestricted flow passage.

It's the greatest efficiency booster for any plant. Low in first cost — maintenance cost is "nil."

HILLS-McCANN CO.

2376 Nelson St. Chicago

HILLS-McCANN VALVES

Write for comprehensive Catalog V-61 which explains the many wonderful advantages over gate or globe valves, plug-cocks, etc.

When inquiring specify CEP3303 — see information request blank, pgs. 24-25

## Here's How to Trade Pennies for Dollars!

**A**T A DOLLAR A TON, steam is one of the cheapest materials available to industry today. Yet in numerous instances\* it is being traded for material selling for anywhere up to \$200.00 or more a ton. Surprisingly enough, there are still quite a few places where the opportunity is being overlooked and this winter will again see dry, heated indoor air rob many products of one of their most valuable components: **MOISTURE CONTENT.** Don't take that loss—install the low priced Armstrong Humidifiers. For complete details write **ARMSTRONG MACHINE WORKS, 880 Maple St., Three Rivers, Mich.**

\*Users of Armstrong Humidifiers.



Armstrong Unit Humidifiers list at \$100.00 each, complete with Friez humidistat, solenoid control valve, fan, strainer, and condensate drainage trap. Ask for new 8 page bulletin.

**ARMSTRONG**  
STEAM TYPE  
**HUMIDIFIERS**

When inquiring specify CEP3304—see information request blank, pgs. 24-25

**NO!** You need not PAY A HIGH PRICE FOR A HIGH EFFICIENCY DUST CONTROL SYSTEM

**W**HEN it is an American Dust Control System you pay no premium for high efficiency. Take the "Dustube" cloth bag type collector for example. Its efficiency is well above the average wet or dry system. And it costs less to operate and maintain, yet it can be installed at a price you can afford to pay. If you are looking for the best—at moderate cost—this is it.

Then there is the American "Cyclone"—an entirely new cyclonic design—which ranks next to the "Dustube" for high efficiency. We have yet to find a "Cyclone" that will come anywhere near it for performance, yet it costs no more.

Write today for literature.

**AMERICAN**  
FOUNDRY EQUIPMENT CO.

573 S. Byrkit St. Mishawaka, Ind.

THE AMERICAN WET DISPOSAL UNIT, shown at left, makes a wet sludge of the dust discharged from the hoppers of dry type dust collectors, such as the American "Dustube" and "High Efficiency Cyclone."

When inquiring specify CEP3305—see information request blank, pgs. 24-25

## NEW LITERATURE

### Air Compressor Selector, Slide Rule Type

Eight and one-fourth by three and one-half inch, slide rule type of selector aids in selecting the correct size and type of compressor for a specific job. One simple setting of scale shows correct compressor model number, free air delivery, r.p.m., piston displacement, and motor horsepower required. Used for both air and water cooled compressor applications requiring up to 80 cu. ft. displacement. Pressures covered by the selector range from 30 to 250 lbs. Selector is available on request.

QUINCY COMPRESSOR CO., Dept. CEP, Quincy, Ill.

When inquiring specify CEP3306—see information request blank, pgs. 24-25

### Long-Life, Diaphragm Type Valves

Comprehensive catalog illustrates and explains the outstanding features of the valve... how the working parts are isolated from the thru-put avoiding corrosion troubles, together with other factual data and specifications, including a complete list of service recommendations for control of acids, alkalis, gases, semi-solids, volatile and viscous substances, hot and cold water, compressed air, etc. Catalog No. V-41 is available on request.

HILLS-McCANN CO., Dept. CEP, 2370 Nelson Ave., Chicago, Ill.

When inquiring specify CEP3307—see information request blank, pgs. 24-25

### High Temperature Insulating Material

Material known as "Unibestos," in blocks, sheets, and sectional pipe covering, is illustrated and described in this four-page two-color folder. Of interest is a table which gives all the data needed for figuring the average insulating job. Sizes of the material and list prices are shown in another extensive table. A "story in pictures" shows how to cover a flange with insulating material. Form No. 48-965 is available on request.

UNION ASBESTOS & RUBBER CO., Dept. CEP, 1821 South 54th Ave., Cicero, Ill.

When inquiring specify CEP3308—see information request blank, pgs. 24-25

### Specially Fabricated Copper Tubing

A wide variety of copper tubing products are shown in this colorful, 6-page folder, including standard tubular fittings, tubular assemblies, single and double pipe coils, headers and manifolds, return bends, tees, etc. Booklet is available on request.

MUELLER BRASS CO., Dept. CEP, Port Huron, Mich.

When inquiring specify CEP3309—see information request blank, pgs. 24-25

### Automatic Valves and Controllers

Eight-page, three-color folder effectively displays a large line of automatic valves and controllers for pressure regulating, volume flow and liquid level. On the center spread, some 32 types are shown, each with photo and identifying "tag" with details of size, operation and major features. Bulletin 330 is available on request.

A. W. CASH CO., Dept. CEP, Decatur, Ill.

When inquiring specify CEP3310—see information request blank, pgs. 24-25

### Axial Flow Fans With Pressure Propellers

Four-page, two-color folder describes in detail these pressure fans with "Duo-Plane" pressure propellers. Capacities and specifications are given in tabular form. Another section provides details of the maker's axial blowers. Bulletin No. 92 is available on request.

INTERNATIONAL ENGINEERING CO., Dept. CEP, Dayton, Ohio.

When inquiring specify CEP3311—see information request blank, pgs. 24-25



## You See Fine Machines—But Farval "Sees" Their Bearings

You can see your machines but Farval "sees" the bearings inside the machines—whether 10 or 10,000. Furthermore, Farval sees to it that every bearing is properly lubricated—and with a tell-tale indicator to show the job is done.

Positive lubrication of all your machines will eliminate shutdowns due to dry bearings—reduce power consumption as much as 30%—increase life of bearings up to 10 times—lower maintenance cost by 75%—and prolong life of your equipment indefinitely. Send for Representative.

The Farval Corporation, 3257 E. 80th St., Cleveland, Ohio.

Affiliate of The Cleveland Worm & Gear Company, Manufacturers of Automotive and Industrial Worm Gearing

In Canada: PEACOCK BROTHERS LIMITED

**FARVAL** CENTRALIZED SYSTEMS OF LUBRICATION

When inquiring specify CEP3312—see information request blank, pgs. 24-25

**TROUBLE WITH VALVES ON CORROSIVE LIQUIDS?**

**... TRY LAPP CHEMICAL PORCELAIN**

Providing "the first satisfactory answer to the problem of handling many corrosive liquids," valves of Lapp Chemical Porcelain are installed in systems that cover a wide range of processes. Smoothly operating, positive sealing and made from non-porous Chemical Porcelain, they may answer a problem in your process. Literature on request, Lapp Insulator Co., Inc., LeRoy, N. Y.

**LAPP** CHEMICAL PORCELAIN

RASCHIG RINGS • PIPE • VALVES

When inquiring specify CEP3313—see information request blank, pgs. 24-25

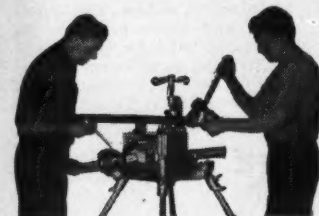


## PROMPT DELIVERY!



**Beaver Model-A**  
A high-speed heavy-duty deluxe Pipe and Bolt Machine. Range  $\frac{1}{8}$  to 2-inch—up to 12-inch with geared tools and drive shaft. Bolts,  $\frac{1}{4}$  to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

**Beaver Model-B**  
A light-weight utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range  $\frac{1}{8}$  to 2-inch—up to 8-inch with drive shaft and geared tools. Bolts up to  $\frac{1}{2}$ -inch. Weight 280 lbs. Ask for Bulletin-B.



**Beaver Model-C**  
A sturdy little Power Unit Converts Hand Pipe Tools into Power Tools from  $\frac{1}{8}$  to 8-inches. Threads 8-inch in 6 minutes. Threads bolts up to  $\frac{1}{2}$ -inch. Equipped with automatic chuck wrench ejector—a safety feature. Two men can use it at the same time without interference. Easily portable—weighs about 150 lbs. Write for Bulletin-C.

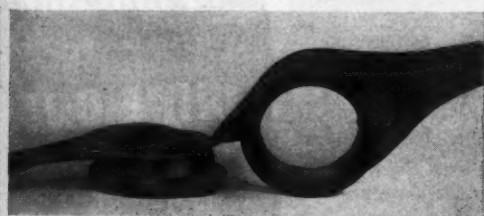


**Highest Quality • WARREN, OHIO • For 40 Years**

941 REVIEW AVENUE

When inquiring specify CEP3314 — see information request blank, pgs. 24-25

## Pulmosan AIR-TITE RUBBER GOGGLES



### SEAL OUT

Dusts, Fumes  
Chemicals,  
Acids, Vapors,  
Smoke, Sprays,  
Splashes

Valuable for Chemical Workers,  
Chemists, Laboratories, etc.

Entire construction of moulded, non-irritating pure para rubber. Provides snug, comfortable, airtight fit over eyes and nose. Unaffected by chemicals, acids, etc. Adjustable, all-rubber headbands. Fitted with clear, round lenses,  $2\frac{1}{8}$ " dia. Shatterproof or colored lenses, on request. Model G-520 shown. Get prices and details.

**PULMOSAN SAFETY EQUIP. CORPORATION**

Dept. EP, 176 Johnson St., Brooklyn, N.Y.

When inquiring specify CEP3315 — see information request blank, pgs. 24-25

## NEW LITERATURE

### Prescription Adhesives, Paste, Gum, Glue

Attractive four-page folder illustrates and describes laboratory control in adhesives manufacture, methods of checking various types of gums, glues and pastes, and special types of adhesives for "prescription" problems. Large list of industries using the products is shown. "Inside Story" is available on request.

F. G. FINDLEY CO., Dept. CEP, 1243 North 10th St., Milwaukee, Wis.

When inquiring specify CEP3316 — see information request blank, pgs. 24-25

### Long-Tube Vertical Evaporators

An 8-page, two-color folder is effectively used to display these long-tube vertical evaporators. Center spread shows a typical arrangement of a backward-feed, 6-body quintuple effect long-tube vertical evaporator with condensate and liquor flash systems. Diagrammatic drawing shows the operating principle with major features indicated. Typical flow sheets are shown for distillery slop, viscose rayon and Kraft paper pulp. Bulletin E 100 is available on request.

SWENSON EVAPORATOR CO., Dept. CEP, 15667 Lathrop Ave., Harvey, Ill.

When inquiring specify CEP3317 — see information request blank, pgs. 24-25

### "Airflex" Couplings

Twenty-page, three-color bulletin illustrates and describes the many features of these couplings. Typical installation views are shown with large cut-away photos of major construction details. "Rubber Loading in Shear" principle is clearly described. Dimensions drawings and specification tables are given for each type of coupling. Another section gives valuable data on "how to select" the proper coupling. Bulletin 8100 is available on request.

FALK CORP., Dept. CEP, 3001 West Canal St., Milwaukee, Wis.

When inquiring specify CEP3318 — see information request blank, pgs. 24-25

### Rotary-Piston High Vacuum Pumps

Eight-page, two-color bulletin gives complete information about these high vacuum pumps. Several models are shown in large size photographs and a cut-away drawing shows detailed features with complete explanation of operation. Comparative volumetric efficiencies are shown in graph form of five types of vacuum pumps. Specification tables show dimensions and features of nine models. Catalog No. 75 is available on request.

BEACH-RUSS CO., Dept. CEP, 50 Church St., New York, N. Y.

When inquiring specify CEP3319 — see information request blank, pgs. 24-25

### Screens and Strainers for All Liquids

Pocket-size leaflet shows a variety of screens and strainers for all liquids. Listed also are users, types of equipment on which these screens and strainers are used, and a table of wire gauges. Leaflet is available on request.

RIPLEY MFG. CO., Dept. CEP, Wayne, Mich.

When inquiring specify CEP3320 — see information request blank, pgs. 24-25

### Adjustable V-Belt

Unique booklet of 24 pages uses large photos almost entirely to show advantages and special points about these adjustable V-belts. Very little copy is used and the photos tell the story. "Veelos Picturegraph" booklet is available on request.

MANHEIM MFG. & BELTING CO., Dept. CEP, Manheim, Pa.

When inquiring specify CEP3321 — see information request blank, pgs. 24-25



## Cuts Costs IN EVERY INDUSTRY

EQUIP a single operation that shows the highest handling cost in your plant. Then watch American MonoRail cut down these costs. Many nationally known manufacturers started this way and today, systems extend throughout their entire plants. Many others have turned handling losses into profits with a single installation. Size of plant, nature of product, weight of load makes little difference. American MonoRail equipment is engineered to meet the particular requirements of each handling problem. Let an American MonoRail Engineer help solve your handling problems.



● Simple mono-rail loop assures continuous flow of sheet metal parts between welders and spray booth.

● Special dumping tube reduce cost of handling wet, bulky materials between processes.



● Inter-locking, hand operated cranes provide over-all coverage of work areas with transfer to other departments.

**THE AMERICAN MONORAIL CO.**  
13109 Athens Avenue Cleveland, Ohio

When inquiring specify CEP3322 — see information request blank, pgs. 24-25

## BLAW-KNOX ROTARY VACUUM DRYERS



Blaw-Knox Dryers are designed with special reference to efficient heat distribution and equipped with dust collectors which prevent loss of materials.

These dryers are equipped with special charging and discharging devices to meet the characteristics of materials undergoing process.

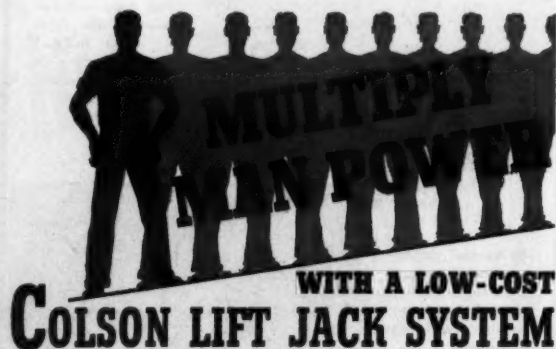
They have single and double spiral, paddle type, lifting type or reversible type agitating units.

The ample facilities and experience of Blaw-Knox provides for fabrication from steel, alloys or other metals.

**BLAW-KNOX DIVISION**  
OF BLAW-KNOX COMPANY  
Farmers Bank Building Pittsburgh, Pa.

## BLAW-KNOX

When inquiring specify CEP3323 — see information request blank, pgs. 24-25



When man power must be multiplied and fast-increasing production calls for greatest efficiency—the Colson Lift Jack System puts skids under handling costs.

The Colson System is complete, eliminating extra pick-up, extra set-down, extra handling.

The Colson System is simple—a platform with wheels on one end, and a two-wheeled jack that engages the front of the platform converting it into a sturdy, easy-to-roll-truck.



The Colson System can be installed with a small investment. A hundred dollars will buy several platforms and a lift jack. Many users report that their investment was returned in less than a year in actual savings in handling costs alone.

To multiply your man power, ask us for more complete information

**THE COLSON CORPORATION**

1000 N. 10th St., Milwaukee, Wis.



When inquiring specify CEP3324 — see information request blank, pgs. 24-25

## NEW LITERATURE

### Mechanical Rubber Goods Data

Twenty-four-page booklet is a condensed catalog, engineering data and guide to selection of various mechanical rubber goods products. Covered are such subjects as rubber transmission belting with instructions on how to splice endless belting in the factory; data on minimum pulley diameters, transmission belting horsepower, simple method for correcting horsepower ratings, etc. Recommendations are made for conveyor belt service, with much information and data on elevator problems. Rubber lined, tanks, hose and pipe fittings, packing, rubber mats, etc., are discussed in other sections. Booklet is available on request.

B. F. GOODRICH CO., Dept. CEP, Akron, Ohio.

When inquiring specify CEP3325 — see information request blank, pgs. 24-25

### Vibratory Material Handling Equipment

Forty-eight-page catalog covers many types of vibratory material handling equipment, including vibrators, conveyors, feeders, constant weigh feeders, net batch and net gross weigh feeders, packers and jolters, electric hammers, replacement shaft seals, swivel pipe couplings, hopper level switches, etc. Numerous installation photos show products applied to various material handling problems. Complete specifications are given for each type of equipment. Catalog 416 is available on request.

SYNTRON CO., Dept. CEP, 110 Lexington Ave., Homer City, Pa.

When inquiring specify CEP3326 — see information request blank, pgs. 24-25

### How to Waterproof and Patch Concrete Walls and Floors

Illustrated folders gives details showing how to waterproof and patch concrete walls and floors. Interesting photos show application methods, before-and-after views, etc. Three types of this cement are shown with details of use, size of containers, and characteristics. Folder is available on request.

SMOOTH-ON MFG. CO., Dept. 428, 570 Communipaw Ave., Jersey City, N. J.

When inquiring specify CEP3327 — see information request blank, pgs. 24-25

### Industrial Thermometers

Seventy-two-page catalog, plastic binding, has been revised and brought up to date to show complete line of industrial thermometers, including glass, dial, and recording instruments. Catalog is available on request.

MANNING, MAXWELL & MOORE, INC., Dept. CEP, Bridgeport, Conn.

When inquiring specify CEP3328 — see information request blank, pgs. 24-25

### Impact Pulverizers

Eight-page, two-color bulletin gives details of these vertical air separation impact pulverizers. Several models are shown with accompanying specification tables. Typical installation photos show application in the metallurgical, chemical, cement, and other industries. Bulletin FY-102 is available on request.

WHITING CORP., Dept. CEP, Harvey, Ill.

When inquiring specify CEP3329 — see information request blank, pgs. 24-25

### Traction Sanders for Trucks and Tractors

Four-page folder shows many applications for these traction sanders for trucks and tractors. Detailed photos show sander position on truck and diagram drawings show how air and electrical connections are made on trucks. Folder is available on request.

LINTERN CORP., Dept. CEP, 7900 Lorain Ave., Cleveland, Ohio.

When inquiring specify CEP3330 — see information request blank, pgs. 24-25

## AUTOMATIC



Flow  
Controlled  
by  
Hydraulic  
Cylinder

In addition to manual operation, R-S Butterfly Valves are operated automatically by means of motors, air, hydraulic and steam pressure. Designed for high or low pressures and temperatures and to meet special service conditions. Provide low-cost, accurate control of any medium that flows or is forced through a pipe. Standard and special sizes from 2" to 72".



Write for  
Bulletin 8-B

R-S Precision Butterfly Valves — as tight closing as double-sealed valves.

**R-S BUTTERFLY VALVES**

**R-S PRODUCTS CORPORATION**  
4531 Germantown Ave., Philadelphia, Pa.

When inquiring specify CEP3331 — see information request blank, pgs. 24-25

### QUICK FACTS about CLING-SURFACE BELT TREATMENT

1 Lowest cost belt treatment — 66% more effective than others.

2 Belts operate slack without slip after the first treatment.

3 Bearing and shafting wear reduced.

4 Penetrates pores of belt, never dries out.

5 Can be used on all types of belts—leather, rubber, cotton, hair, rope, flat or "V".

**GAMBLE**  
a 3¢ stamp  
to find out  
how to  
**WIPE OUT**  
**BELT TROUBLE**  
by using  
**CLING-SURFACE**  
**BELT TREATMENT**

SLACK BELTS  
Save Labor Loss

CLING-SURFACE CO. (EST. 1896) 1047 Niagara St., Buffalo, N.Y.

Write for **CLING-SURFACE**  
**FREE TRIAL BELT TREATMENT**

When inquiring specify CEP3332 — see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW



Something **BIG** has happened in fan designing!

NOW . . . Buffalo Type "LL" Limit-Load Fans Set New Standard for Ventilating Fan Performance

In fan performance, code ratings are one thing—actual performance on the job is quite another. Installation conditions can materially affect the fan's ability to perform. Right there is where the new, improved Buffalo "LL" Limit-Load Fans prove their practical superiority. Not only do these improved Buffalo Fans measure up to Standard Code Ratings—they definitely

exceed them! Yes, and set a new standard of performance. Exhaustive tests, in which these new Buffalo Fans were subjected to the conditions of actual service, prove that the improved Buffalo "LL" fans deliver practically full capacity in spite of obstructions commonly encountered. Here's a real achievement in practical fan engineering. Today, write for Bulletin 3359 for complete engineering data.

**BUFFALO FORGE CO.**  
160 Mortimer Street  
Buffalo, N. Y.

In addition to the well-recognized quietness of operation, the non-overloading characteristic, the over-all quality of workmanship, the improved Buffalo "LL" Fan embodies such exclusive features as:

- (1) Stationary Inlet Vanes—smooth, efficient air intake.
- (2) True Cut-Off—tangent to periphery of wheel—reduced turbulence at outlets.
- (3) Wide, Medium-Speed Wheel—low velocity through wheel—greater quietness.
- (4) Improved Scroll Design—more efficient.
- (5) Rigid, Heavy Construction of housing—minimum vibration.

**Buffalo TYPE "LL" Limit-Load FANS**

When inquiring specify CEP3333—see information request blank, pgs. 24-25

**STOP Liquid Splashes-Sparks Flying Particles - -**

with this  
**2-WAY DEFENSE PROGRAM**

★ There is no "give" in this Cesco No. 750 General Utility Face Shield, which accounts for its ability to "take" and shunt off splashes, sparks and flying particles in the chemical process and metal fabricating industries. Extremely light in weight, with extra window metal bound for added strength and rigidity.

**CESCO No. 750  
FACE  
SHIELD**

enables its wearer to proceed aggressively, confident of working with the utmost in face and eye protection and comfort.

**New Cesco No. 94 RESPIRATOR**

Here is a respirator that **FITS** better, offers more **COMFORT** to the wearer! Carries a new Approval by the U. S. Bureau of Mines (No. 51M-2142) for protection against Type A (Silica)—Lead and Nuisance Dusts. Unusually large filtering area (40 sq. in.) promotes easier breathing. New Exhaust Valve with speaking diaphragm permits a normal exchange of conversation. Functions with a high degree of efficiency against all common dusts, making it unnecessary to change filters under average working conditions. Get special circular today. Write.

Cesco No. 94 Respirator

**CHICAGO EYE SHIELD CO.** 2337 Warren Blvd., Chicago • Illinois

When inquiring specify CEP3334—see information request blank, pgs. 24-25

## NEW LITERATURE

### How to Get Along On Less Priority Metal

Sixteen-page booklet shows how to get along with less priority metal by means of the metal spraying process, especially in the production and maintenance of rotating and reciprocating mechanisms. Many actual instances of savings are described in detail and illustrated with photos and diagrams. Booklet is available on request.

**METALLIZING ENGINEERING CO.,** Dept. CEP, Long Island City, N. Y.

When inquiring specify CEP3335—see information request blank, pgs. 24-25

### Oven & Drier Construction Data Book

Ten-page data book contains technical information on a novel type of oven and drier construction. Typical constructions for walk-in driers and core ovens, tunnel type ovens and lehrs are described in detail with line drawings. Data on exterior and interior finishes and tables on design loads for columns and maximum allowable spans are included. DS Series 585 is available on request.

**JOHNS-MANVILLE,** 22 East 40th St., New York, N. Y.

When inquiring specify CEP3336—see information request blank, pgs. 24-25

### Centrifuge Cleans Fuel & Lubricating Oil

Twenty-four-page, three-color booklet ably tells the story of this method of Diesel fuel and lubrication oil purification. Many effective photos and diagrams show operating principles of these super centrifuges. Specifications are given for various models. "Clean Diesel Oil" booklet is available on request.

**SHARPLES SPECIALTY CO.,** Dept. CEP, 23rd & Westmoreland Sts., Philadelphia, Pa.

When inquiring specify CEP3337—see information request blank, pgs. 24-25

### Engineering Properties of Inconel

Sixteen-page technical bulletin contains revised information on mechanical properties of Inconel at ordinary and elevated temperatures. Many tables, curves, and general engineering information are supplied, covering such subjects as general characteristics, corrosion resistance, working properties, typical uses, available bulletins, etc. Bulletin T-7 is available on request.

**INTERNATIONAL NICKEL CO.,** Dept. CEP, 67 Wall St., New York, N. Y.

When inquiring specify CEP3338—see information request blank, pgs. 24-25

### High Performance High Alumina Brick

Three-color, six-page folder describes in detail this super-duty corundum refractory. Center spread contains a large chart showing the comparative melting behaviors of alumina-silica refractories. Another illustration shows the various sizes and shapes of this alumina brick. "Korundal" folder is available on request.

**HARBISON-WALKER REFRACTORIES CO.,** Dept. CEP, Farmers Bank Bldg., Pittsburgh, Pa.

When inquiring specify CEP3339—see information request blank, pgs. 24-25

### Axial Flow Fans & Ventilating Equipment

Seventy-two-page-and-cover, 8½" x 11" catalog displays a large line of axial flow fans and general ventilating equipment. Contains a large engineering section to assist engineers in selecting the proper size and type equipment for their ventilating requirements. Effective use has been made of many large photos, diagrams, curves and application drawings. Many models are shown with detailed performance and specification figures for each type. Catalog No. 10 is available on request.

**PROPELLAIR, INC.,** Dept. CEP, Springfield, Ohio.

When inquiring specify CEP3340—see information request blank, pgs. 24-25



### with HILLS-McCANNA PROPORTIONING PUMPS

Hills-McCanna Pumps feed accurately because they are of the positive displacement type.

Before shipment, every pump is tested thoroughly to make sure the variation in delivery over a period of time does not fluctuate more than ± 1½%.

*What This Means to You!*

1. Rigid control of product specifications.
2. Savings by elimination of over dosing or feeding of any constituent.
3. Continuous processing 24 hours per day. Time-saving—trouble-saving.
4. Closely controlled accurate adjustment easily accomplished at any time to vary the amount of feeding or treatment.

Send for Catalog P-40 describing the many types available.  
**HILLS-McCANN CO.,** 2370 Nelson Street, CHICAGO

**HILLS-McCANN**  
*Positive* PROPORTIONING PUMPS

When inquiring specify CEP3341—see information request blank, pgs. 24-25

**ROBINS Gives You**



Robins uses the best materials and doesn't skimp on quality of workmanship. Robins Triple Grease Seals keep grease in and dust out. Pulley assemblies are identical, interchangeable, reversible. "One-Shot" lubrication fills all bearing chambers from either side—no dangerous reaching under the belt or loose grease pipes.

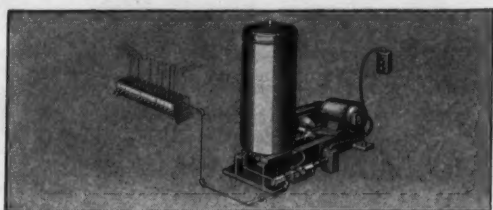
**ROBINS CONVEYING BELT COMPANY**  
PASSAIC, NEW JERSEY



When inquiring specify CEP3342—see information request blank, pgs. 24-25

Cut production delays...Equip your machines with

## LINCOLN CENTRO-MATIC LUBRICATING SYSTEMS



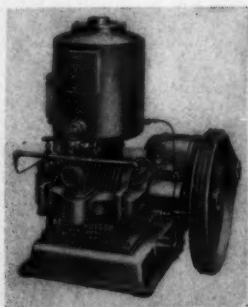
New system supplies a measured amount of lubricant to every bearing from a central source

The Lincoln Centro-Matic System consists of a number of Centro-Matic Injectors—one for each bearing—and a suitable Centro-Matic lubricant pump. The injectors may be grouped in one location or located separately at each bearing. In either arrangement only a single lubricant supply line is required. The lubricant pump may be hand or power operated—Power operated Systems may be semi-automatic or full automatic.

There is a Centro-Matic System for every type of machinery using grease lubrication . . . Get complete information. Write today for Bulletin 888. 141-4

LINCOLN ENGINEERING COMPANY  
PIONEER BUILDERS OF LUBRICATING EQUIPMENT  
ST. LOUIS, MO.

When inquiring specify CEP3343 — see information request blank, pgs. 24-25



Increase Output  
Improve Quality  
Cut Costs  
with  
**HIGHER  
VACUUM**

Beach-Russ Rotary Piston  
High Vacuum Pumps assure . . .

**Higher Vacuum**—for improved, safer distillation, drying, impregnation testing, etc.  
**Higher Volumetric Efficiency** for high speed evacuation—saves time, speeds production.  
**Corrosion Resistance**—built to withstand reasonable quantity of liquid in the exhaust vapors.  
**Rotary Motion at Slow Speed**—for more effective oil seal of pump clearance—hence quiet operation sustained capacity and longer life.

Write for Bulletin No. 75

BEACH-RUSS COMPANY  
40 Church St., New York, N. Y.

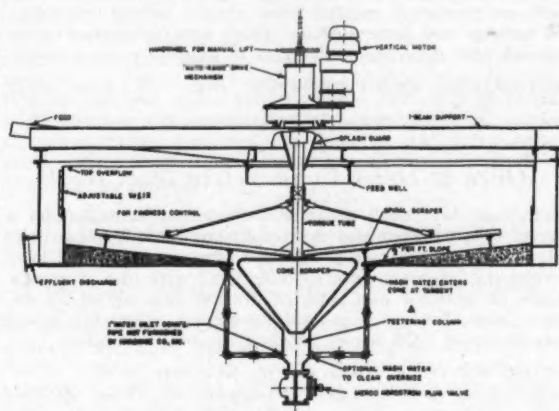
**BEACH-RUSS High Vacuum PUMPS**

When inquiring specify CEP3344 — see information request blank, pgs. 24-25

## PRODUCTION

### Telescopic Weir on Hydro-Classifier

Permits adjustment to decrease retention period in classifier to one-half of maximum



HYDRO CLASSIFIER . . . makes several products with one machine

**Uses**—Several installations have been recently made for classifying operations, particularly in sand washing plants for washing sand free of included clay and micron sizes of sand.

**Features**—Sand cleaning chamber, below raking section where water enters tangentially, gives a swirling action to sand and removes last traces of included fines or silt. Telescopic type peripheral weir permits varying the classifier depth from a maximum operating depth to one-half the maximum, or at any in-between point. This permits making various sizes of products on one machine by varying the available retention volume.

**Performance**—A sand product may be made varying anywhere from practically all plus 80 mesh to practically all plus 240 mesh. Extremely fine material is removed as an overflow product.

**Description**—Classifier consist of circular steel tank divided into compartments, a main or upper one equipped with an adjustable overflow weir in which agitating and collecting spital rakes operate, and a conical shaper lower compartment where final wash is given. Machine is operated by a motor through an enclosed oil lubricated drive gear. Unit includes the "Auto-Raise" feature which prevents damage from sudden overloads. Power requirements are small, a 1½ H.P. motor being sufficient to operate a 20-ft. diameter classifier.

HARDINGE CO., Dept. CEP, York, Pa.

When inquiring specify CEP3345 — see information request blank, pgs. 24-25

### Plasticizer Makes Coatings More Flexible with Greater Adhesion

**Features**—Paper, textile and leather coatings made with clay dope dispersions can be rendered more flexible and have greater adhesion with a new plasticizer which can be stirred directly into the converters clay coating dope. Final dispersion remains stable, improves calendaring operation and produces coated sheets with greater water resistance.

**Description**—Procedure is to add the clay, carnauba wax emulsion, etc., to the pre-cut casein solution, stirring until completely dispersed. Then add, with high speed agitation, the plasticizer known as S-376 in amounts of approximately 10%, based on total solids of the clay dope. Details, prices and samples are available.

GLYCO PRODUCTS CO., Dept. CEP, 230 King St., Brooklyn, N. Y.

When inquiring specify CEP3346 — see information request blank, pgs. 24-25

## PNEUMIX

### AIR MOTORED AGITATORS



For safer mixing

Direct drive and geared models

Variable speeds up to 6000 RPM.

Let us know your requirements

Direct drive  
Pneumix  
with  
propeller  
guard.

Send for Bulletin

**ECLIPSE AIR BRUSH CO.**

Manufacturers of spray equipment since 1908

393 Park Ave.

Newark, N. J.

When inquiring specify CEP3347 — see information request blank, pgs. 24-25

### INEXPENSIVE INSURANCE AGAINST HEALTH HAZARDS



**SLY  
DUST CONTROL  
Helps  
Maintain  
QUALITY**

Used for ventilating grinders at the plant of the National Sewing Machine Co., Belvidere, Ill., this Sly Dust Control System exhausts dust-laden air from the plant, filters it and returns it to the plant, improving working conditions and helping maintain National's standard of quality.

The exclusive advantages offered by Sly Filters are: (1) Greater filtering capacity because of more filtering cloth. (2) Taut bags at all times saving power and resulting in quicker removal of dust. (3) Bags more easily replaced. (4) Automatic control (any degree) minimizing or removing the human factor. (5) Simpler shaker mechanism resulting in savings in maintenance and operation.

Ask for Bulletin 98, and tell us about your problem so that we can write you fully.

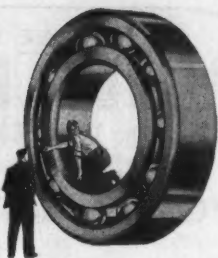
**SLY THE W. W. SLY MFG. CO.**  
4754 TRAIN AVE., CLEVELAND, O.  
INDUSTRIAL DUST CONTROL

When inquiring specify CEP3348 — see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW



## BEARINGS A BIG ITEM IN YOUR PLANT



JUST think what it would mean to you if you could double or treble the life of each bearing . . . reduce replacement bearing and labor costs . . . avoid unnecessary production interruptions. That is exactly what thousands of manufacturers are accomplishing with **BALL BEARING LUBRIPLATE**. They condition bearing surfaces, reduce friction and prevent rust and corrosion. Write today for literature.

### 7 FACTS ABOUT LUBRIPLATE

1. Produces ultra-smooth wear-resisting bearing surface.
2. Reduces friction—lowers maintenance and power cost.
3. Resists rust, corrosion, pitting.
4. Assures clean lubrication.
5. Outlasts ordinary lubricants many times.
6. Economical—a little goes a long way.
7. Available in fluid and grease types for every need.

**LUBRIPLATE DIVISION**  
**FISKE BROTHERS REFINING CO.**  
NEWARK, N. J. TOLEDO, OHIO  
*Dealers from Coast to Coast*

**LUBRIPLATE**  
THE MODERN LUBRICANT  
THAT ARRESTS PROGRESSIVE WEAR

When inquiring specify CEP3349 — see information request blank, pgs. 24-25

## PERMANENT PROTECTION AGAINST CONTAMINATING IRON



The new, **Permanent Magnet**, for dry and wet materials to **Eliminate Iron, Fire Hazard, Damage to Equipment**. This separator gives years of dependable, continuous service without any possible loss of power. Class "A"—Highest available Rating by Mutual Insurance Underwriters' Bureau.

### AS STRONG AS AN ELECTRO MAGNET

Simple to install. Easy to clean  
**NO ELECTRICITY. NO WIRING. NO MAINTENANCE.**

**NIAGARA PERMAFLUX MAGNET**  
(Patents applied for)

**THE RICHMOND MANUFACTURING CO., Lockport, N.Y.**



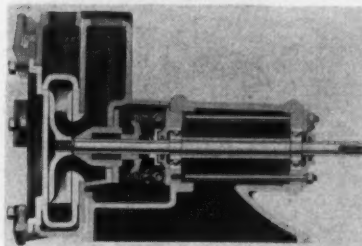
Manufacturers of:  
**ELECTRO MAGNETIC SEPARATORS**  
**HIGH SPEED SIFTERS AND SCREENERS**  
Air Separators  
Dust Collectors  
Gran Dusters, etc.

When inquiring specify CEP3350 — see information request blank, pgs. 24-25

## PRODUCTION

### Horizontal Shaft Pump to 1400 GPM

*Has clamp-bolt construction of water end, accessible stuffing box and is self-priming*



**HORIZONTAL SHAFT PUMP**  
handles up to 1400 g.p.m.

a bearing arrangement that assures proper alignment, sealing bearings, a readily accessible stuffing box and self-priming features.

**Description**—Wide variety of alloys can be used in pump construction, depending upon service conditions. Made in types "A" and "T", these horizontal pumps are available in all sizes from  $\frac{3}{4}$ " to 6" in capacities up to 1400 g.p.m., and for operating heads up to 100 ft. Four types of impellers are available—2, 4 and 6-vane shrouded type and 4-vane open type. Type "A" is shown, and "T" is similar in design except that intake opening is horizontal and concentric with shaft. Bulletin 940 gives complete details.

**AMERICAN MANGANESE STEEL DIV.** of American Brake Shoe & Foundry Co., Dept. CEP, Chicago Heights, Ill.

When inquiring specify CEP3351 — see information request blank, pgs. 24-25

### Hand Operated Pallet Truck

*Multiple stroke lifting mechanism provides effortless lift*

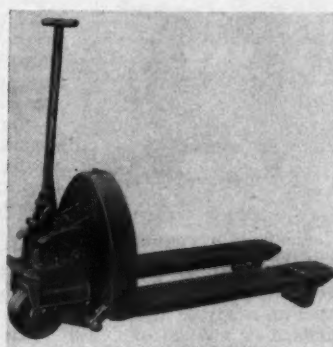
**Uses** — Serves as supplement to electric truck handling and is useful for short hauls and close-quarter operations.

**Features** — All wheels are ball bearing equipped. Positive locking device and hydraulic release check cushion descending loads. Designed for easy entry between pallet decks. Rollers and wheels on fork frame are so spaced in relation to each other that when wheels are over an empty deck space, the rollers are supporting the trucks by solidly resting on one of the boards of lower pallet deck, thus eliminating the usual wheel drop.

**Description**—Trucks are made in several frame widths: 25", 27" and 30", and in frame lengths of 36", 42", 48", 54" and 60". Load capacities range up to 4,000 pounds.

**YALE & TOWNE MFG. CO.,** Dept. CEP, 4530 Tacony, Philadelphia, Pa.

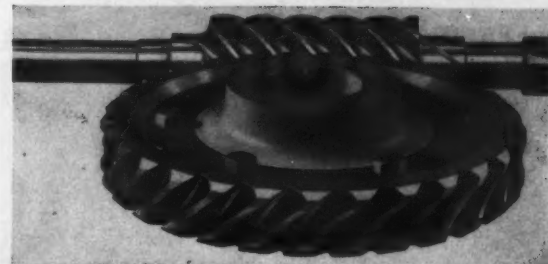
When inquiring specify CEP3352 — see information request blank, pgs. 24-25



**PALLET-TRUCK** is  
hand operated

**Uses**—Pumps are recommended for handling sludge, slime and slurries. Made of variety of materials depending upon extent of abrasion or corrosion under which pump will operate.

**Features** — Units feature clamp-bolt construction of the water end,



## "Uniform Operation Means Everything"

—according to the owners of an Indiana cement plant. Their report gives Cleveland Worm Gear Speed Reducers generous credit for keeping plant equipment driving at full capacity, 24 hours a day, for 17 years.

Cement machines and drives are not only subject to heavy intermittent shock loads but must operate indefinitely without servicing or maintenance. More than 2000 Cleveland Worm Gear Speed Reducers have been installed in the past 20 years on the equipment of principal cement mills in the United States and Canada.

Why not let Cleveland take a crack at your tough job? The Cleveland Worm & Gear Co., 3257 E. 80th St., Cleveland, Ohio.

*Affiliate: The Farval Corporation, Cleveland, Manufacturers of Centralized Systems of Lubrication*

*In Canada: PEACOCK BROTHERS LIMITED*

**CLEVELAND**  
WORM GEAR *Speed Reducers*

When inquiring specify CEP3353 — see information request blank, pgs. 24-25

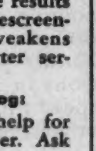
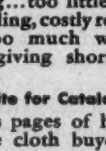
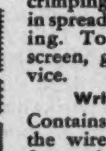
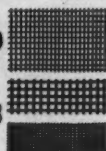
## WIRE CLOTH

Wire Cloth for every industrial use from stone screening to flour bolting.

Screens for abrasive material, chemicals and powder in Plain Steel, Tinned, Brass, Copper, Bronze, Monel and Stainless Steel. Complete stock of Galvanized After Woven Wire Cloth in standard sizes.

### CHOOSE CAREFULLY THE KIND OF SCREEN AND METAL YOU NEED

For correct wire cloth construction, notice if it is mercilessly beaten together or apdly woven. Note if it is fatigued, sprung beyond working limits. Look at the crimping...too little results in spreading, costly rescreening. Too much weakens screen, giving shorter service.



#### Write for Catalog:

Contains pages of help for the wire cloth buyer. Ask for catalog 11-G

**WIRE CLOTH BUYERS:**  
Send for Stock List of Wire Cloth for immediate shipment.

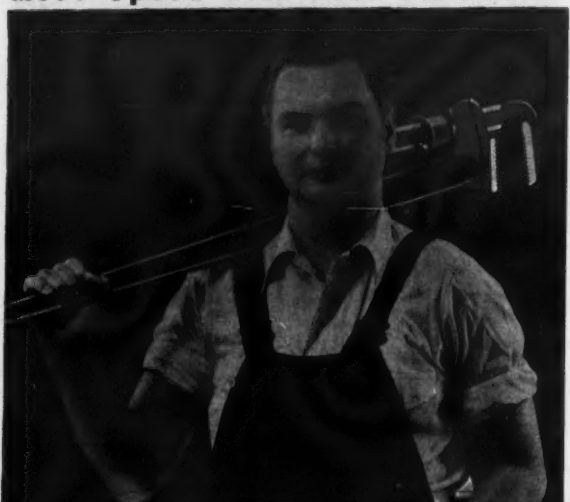
**BUFFALO WIRE WORKS CO., Inc.**  
ESTABLISHED 1869 AS SCHEELER'S SONS

419 TERRACE

BUFFALO, N. Y.

When inquiring specify CEP3354 — see information request blank, pgs. 24-25

## More Speed with Less Hard Work



This Easier Working  
Guaranteed **RIGID**  
helps you avoid delays of

"Time Out  
for  
Repairs!"

**W**HETHER you're directly or indirectly working on Defense, even small delays are serious—they add up to losses that can't be regained. That's why it's important to have tools that stay on the job, speed work, require least effort. These pipe wrenches have housings guaranteed not to break or warp—no expense, fewer spares needed. Replaceable no-slip no-lock jaws are powerful chrome molybdenum, with handy pipe scale on hookjaw. Adjusting nut in open housing spins easily in all sizes, 6" to 60". Comfort-grip I-beam alloy handle protects workers' hands. Millions in use, everywhere. For more speed with less hard work, buy **RIGIDS** at your Supply House... now!

**THE RIDGE TOOL CO., ELYRIA, OHIO**

**RIGID**  
WORK-SAVING PIPE TOOLS

When inquiring specify CEP3355—see information request blank, pgs. 24-25

## PRODUCTION

### Midget Size Explosion-Proof Pump

Compact unit for continuous duty operation

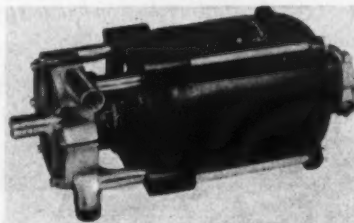
**Uses**—Pump can be used in all industrial, pilot plants, and laboratory and experimental applications where an explosion-proof unit is desirable.

**Features**—Maximum pressure is 16 lbs. per sq. in. Maximum capacity is 5.7 gallons per minute.

**Description**—Size is 10" long, 5½" high and 5" wide; weight is 18 lbs. Motor is 110 or 220 volts, 60 cycles, 1 phase, 1/12 h.p., 3450 RPM, sleeve bearing, impulsion-induction, explosion-proof. Pump is centrifugal type, total internal volume 55 cc. Stuffing box is accurately adjustable by means of accessible adjustment ring. Motor armature and pump impeller are mounted on single shaft, making coupling unnecessary and assuring perfect alignment. Nozzles are threaded for ¼" standard pipe fittings. Pumps are made in various alloys.

**EASTERN ENGINEERING CO., Dept. CEP, 49 Fox St., New Haven, Conn.**

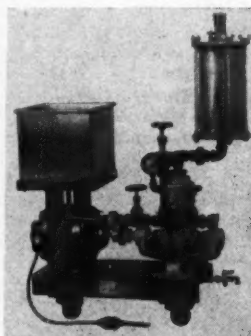
When inquiring specify CEP3356—see information request blank, pgs. 24-25



**EXPLOSION-PROOF PUMP**  
made in midget size

### Laboratory Filter, 1 to 100 G.P.H.

Elimination of non-porous supporting members provides greatly increased flow rate



**LABORATORY FILTER**  
with built-in precoating tank

to 100 gallons per hour, so this equipment can also be used on many production batches. Deflection of filtering surface or change of "mesh" size cannot occur even at high pressures. No cloth, asbestos or paper is required, hence no "lint" or fibres in filtrate. Filter unit can be quickly removed and the pumping unit used for transferring liquids. Non-porous supporting members are eliminated to provide greatly increased flow rate.

**Description**—Standard specifications include all-bronze pump and fittings; precoating tank of tinned copper; filter unit of tinned brass and bronze; 1/6 H.P. enclosed motor. Pressure control is by pump by-pass. Operating pressures up to 55 pounds are practical. The "Champion" Model is 23" long, 10" wide and 31" high.

**LeVAL FILTER CO., Dept. CEP, 1319 S. Michigan Ave., Chicago, Illinois.**

When inquiring specify CEP3357—see information request blank, pgs. 24-25

## Be SURE Your VACUUM PUMPS Will Take The TOUGHEST PUNISHMENT

Specify  
"GAST" ROTARY AIR PUMPS



Nine sizes—1 to 28 C. F. M.  
Vacuum to 28"  
Pressures to 30 Pounds

For automatic laboratory or plant processes, under vacuum or low pressure—for liquid transferring, filling, carton packaging, etc., use GAST Air Pumps—the pumps leading manufacturers furnish as standard equipment on their machines. Specify GAST Air Pumps to get these endurance features which assure unsurpassed speedy, dependable performance.

• **FORCED-AIR-COOLING**—Assures lower temperature resulting in longer unit life. No complicated water system.

• **VANES**—Composition... No springs... automatic take-up for wear.

Write Today for complete Engineering Catalog and Performance Chart. Address: GAST MFG. CORPORATION, 101 Hinkley St., Benton Harbor, Mich.

**GAST**  
ROTARY AIR  
PUMPS

• **AUTOMATIC SHAFT SEAL**—No shaft packing... prevents vacuum loss, stops oil leakage and frequent adjustments... reduces friction.

• **ROTOR**—does not touch casing.

• **COMPACT**—Direct drive at motor speed.

• **SIMPLICITY**—No gears, springs or reciprocating parts.

• **ADAPTABILITY**—Can be used as either vacuum or pressure pump.

When inquiring specify CEP3358—see information request blank, pgs. 24-25

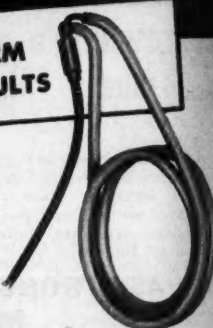
## How to Get PRECISE CONTROL of Electroplating Temperatures

FOR UNIFORM  
PLATING RESULTS

**H**EAAT your electroplating baths with G-E Calrod immersion heaters, controlled thermostatically. You eliminate steam dilution, save summer use of your steam plant, and automatically maintain a temperature that gives the most uniform plating.

These Calrod heaters are economical to operate and easy to install or remove. You simply hang them over the side of the tank.

All Calrod immersion heaters for alkaline cleaning solutions, rinse-water tanks, and electroplating are stocked for immediate shipment. Booklet GEA-3195 gives information on selecting and applying electroplating, rinse-tank, and cleaning-bath heaters. Write General Electric, Schenectady, N. Y., for your copy.



**GENERAL ELECTRIC**

When inquiring specify CEP3359—see information request blank, pgs. 24-25





**Here's a CHEERFUL NOTE!**

These days when you face so many difficult problems, it's refreshing to discover the serviceability and economies which IngAcIad offers. In many types of equipment it...

- serves equally as well as the solid metal, and
- makes Stainless go 5 times as far
- fabricates more easily than solid stainless sheets and plates of similar gauge
- gives perfect stainless service on the side that is used
- costs much less, and
- enables you to use Stainless much more widely.


Write for special IngAcIad Folder

**INGERSOLL STEEL & DISC DIVISION**  
BORG-WARNER CORPORATION  
310 South Michigan Avenue Chicago, Illinois  
Plants: New Castle, Ind.; Chicago, Ill.; Kalamazoo, Mich.

**INGACIAD**  
STAINLESS-CLAD STEEL

**"A Borg-Warner Product"**

When inquiring specify CEP3360 — see information request blank, pgs. 24-25



**New FILTRATION FACT BOOK**

*Now Ready!*

Just off the press—contains facts about recent developments in filter press equipment. Over 50 different types and sizes of filter presses are illustrated and described. Includes charts and data relative to industrial filtration—relative cost of filter area in various sizes of plates—filter area and volumetric capacities—chamber capacities, etc.

Send for your copy today—no obligation.

**D. R. SPERRY & CO., BATAVIA, ILL.**  
Filtration Engineers for over 45 Years

Eastern Representative: Henry E. Jacoby, M.E.  
205 E. 42nd St., New York City  
Tel. MUrray Hill 4-3581

Western Representative: B. M. Pilchashy  
Merchants Exchange Bldg.  
San Francisco, Calif.

When inquiring specify CEP3361 — see information request blank, pgs. 24-25

## PRODUCTION

### Self-Cleaning Steam Exhaust Heads

Extra large port area produces low steam velocity and minimizes pressure loss

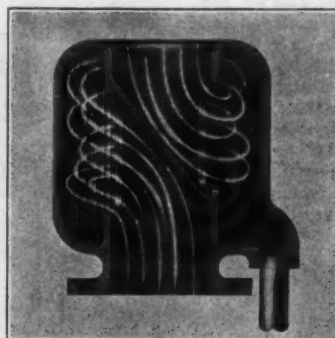
**Uses**—For separating condensate and oil from steam discharged to atmosphere from compressors, non-condensing engines, turbines, pumps, etc., thus preventing raining of water and oily condensate on roof or ground and, at the same time, discharging clean dry steam noiselessly.

**Features**—Exceptional port area produces low steam velocity and minimizes pressure loss. Complete removal of entrainment assured by high ribbed baffle surface extending far outside jet of steam projected from inlet pipe. Head is self-cleaning as water velocity flushes sludge from ribbed baffle area. Large size drain accommodates abnormal amounts of entrainment. Purified steam does not contact entrainment as the steam is whipped sidewise after passing through port.

**Description**—Heads are made in eight sizes from 4" to 12" pipe diameter, of semi-steel construction; and in rolled plate construction for sizes on up to 20". Inlet is flanged and drilled to 125 lb. American standard. Publ. 2960 contains complete engineering data, list prices, dimensions, etc.

COCHRANE CORP., Dept. CEP, 17th & Allegheny Ave., Philadelphia, Pa.

When inquiring specify CEP3362 — see information request blank, pgs. 24-25



STEAM EXHAUST HEAD, self-cleaning, noiseless

### Gas Powered Lift Truck

Compact, light-weight, low-cost unit has multiple disc clutch to eliminate gear-shifting

**Uses**—For handling pallet and skid loads of boxes, cartons, bags, bales, barrels, drums, etc. For hauling, lifting, stacking, towing.

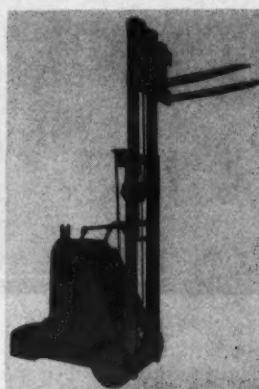
**Features**—Truck is equipped with six brake horsepower gasoline engine and has multiple disc clutch that eliminates gear shifting. Unit will operate in narrow aisles and has high maneuverability. Operating cost is 6 to 10 cents per hour for gas, oil, tires and repairs.

**Performance**—Lifts up to a maximum of one ton to a height of nine feet in approximately 25 seconds.

**Description**—Made in 14 standard models with capacities from 1200 to 2000 lbs. and overall heights of 63 to 83 inches. Height of lift is from 36 to 108 inches to bottom of fork. Wheel base is 43 to 45½ inches, and width is 28 inches. Weight is approximately 2650 to 2800 lbs.

MOBILIFT CO. of N. Y., INC., Dept. CEP, 501 West 30th St., New York, N. Y.

When inquiring specify CEP3363 — see information request blank, pgs. 24-25



LIFT TRUCK... gas power

## Let DRACCO PNEUMATIC CONVEYORS Handle YOUR MATERIALS

At any time DRACCO Pneumatic Conveyors will handle Chemicals CHEAPER and BETTER. But now, with a premium on man power, they can be used more than ever to help increase production. In many places ONE man and a DRACCO Pneumatic Conveyor can do the work formerly done by SEVERAL men. There are no delays—DRACCO Pneumatic Conveyors are always ready for instant operation. Why not consult DRACCO Engineers? They have helped many.



Write for Bulletin No. 526.


## DRACCO CORPORATION

Successors to The Dust Recovering & Conveying Co.

4000 East 110th Street, Cleveland, Ohio New York Office: 130 West 42nd Street

PNEUMATIC CONVEYORS • DUST COLLECTORS

When inquiring specify CEP3364 — see information request blank, pgs. 24-25



**SUPER-SEAL Plastic... NEW!**

with "Spring-back" Resilience

A John Crane development... 5 all-purpose styles for steam, water, oil, petroleum, chemical, food... prevents trucking while handling... handles high temperature... for centrifugal pump seals and rotary pumps for sample

CRANE PACKING COMPANY, 1800 CUYLER AVE., CHICAGO  
CRANE PACKING COMPANY, LIMITED, HAMILTON, ONTARIO, CANADA

When inquiring specify CEP3365 — see information request blank, pgs. 24-25

## LINTERN—

FIRE EXTINGUISHER INDICATOR CABINET

*Show Location, Protects Extinguisher*

**T**HIS new cabinet is supplied for wall mounting and replaces the makeshift wooden box. It is used in exposed locations and unheated buildings for extinguishers of the soda, acid and foam types.

The locking device provides easy entrance for authorized employees for checking and servicing extinguisher. "Glow-lite" lens on top of cabinet makes location of fire extinguisher visible several hundred feet. Rod in extinguisher nozzle automatically clears nozzle when extinguisher is removed from cabinet.

The Lintern cabinet accommodates a standard 2½ gallon size, measures 10" wide, 28" high (including Glowlite) and 9½" deep. Two extinguisher size also available. Glowlite can be furnished in either red or yellow; to accommodate 10 or 25 watt standard lamp for normal lighting locations and a 3 watt vapor lamp for poorly lighted locations.

Write for literature and prices.

### THE LINTERN CORPORATION

56 Lincoln Avenue

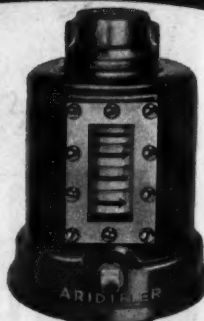
Berea, Ohio

When inquiring specify CEP3366 — see information request blank, pgs. 24-25

*Ever See Air Being Cleaned and Dried?*

You can with this tell-all demonstrator model Aridifier! With it on a compressed air

line, a look through the window and you actually see moisture, oil, dirt and fine scale being removed from the airstream by centrifugal force.



We've dared to let you look inside an Aridifier—watch it at work—because we know it alone effects 90-92% removal of air line contamination, cutting maintenance costs on air tools and equipments and providing clean, pure air for blow guns, paint sprays and processing. Send for Engineering Bulletin 939 and details of our try before you buy plan.

### LOGAN ENGINEERING CO.

4900 Lawrence Ave., Chicago, Ill.  
Offices in Principal Cities

*The ARIDIFIER*  
Dries and Cleans Compressed Air

When inquiring specify CEP3367 — see information request blank, pgs. 24-25

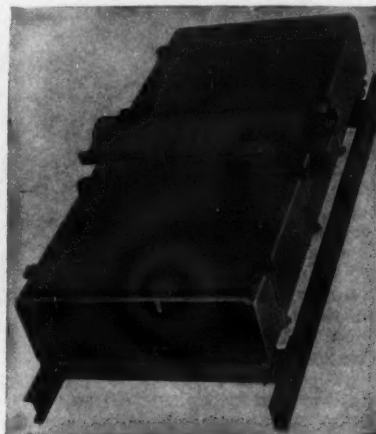
## PRODUCTION

### Enclosed Vibrating Screens

*Dust-tight enclosure; screens are readily and easily changed*

**Uses**—For separating and screening chemicals, food products, etc., where dust-tight enclosures are needed to keep foreign elements away from product being screened.

**Features**—Simple, low cost unit, has screen sections which can be quickly and easily changed. Unit has removable top panels giving ready accessibility to all parts for inspection of screen performance, wire mesh condition or for separation tests. **Description**—Copper-bearing steel veil plate is built into bottom of vibratory frame, thus forming a dust-tight enclosure at bottom of screen. This also serves as a conveyor for carrying fines to discharge end of unit. The removable top panels are the same material and are placed at either side of the vibrating mechanism.



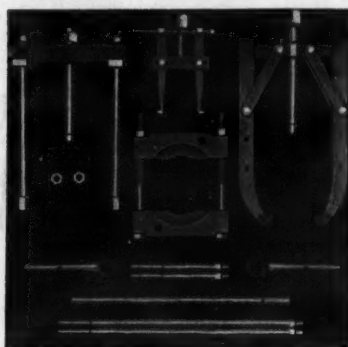
VIBRATING SCREEN . . .  
enclosed, heavy-duty

UNIVERSAL VIBRATING SCREEN CO., Dept. CEP  
Deane Blvd. & St. Paul Tracks, Racine, Wis.

When inquiring specify CEP3368 — see information request blank, pgs. 24-25

### Heavy-Duty Pulling Tools

*Universal scope, for removing and replacing close-fitting parts — wheels, pulleys, etc.*



PULLING TOOLS for  
close-fitting parts

prevent accidents. Easier removal of parts with these tools avoids damaging parts which frequently happens with "punch and chisel" method.

**Description**—Set illustrated can be purchased complete . . . or in individual parts. Weighs 236 lbs. complete, mounted on a 4' x 4' board. This pulling system is approved and recommended by Timken Roller Bearing Co., M-R-C Bearing Co., John Deere Tractor Co. and others.

OWATONNA TOOL CO., Dept. CEP, 342 Cedar St., Owatonna, Minn.

When inquiring specify CEP3369 — see information request blank, pgs. 24-25

## MILLS & MIXERS

### MILLS

Advanced designs in Ball and Pebble Mills—All steel welded construction—Pleasing to the eye—New type reversible trunnion bearings—Exceedingly strong, stiff construction—Nine different drive arrangements. Ask for Catalogue No. 85.



### MIXERS

Standard Mixers complete with driving units and tanks—Various types propellers and stirrers—Tanks of steel, stainless, monel, etc.—Standard capacities 50 to 3000 gallons—Process kettles, paint and paste Mixers—Treaters, Blenders. Autoclaves, Digesters, etc.



### PORTABLE MIXERS AND AGITATORS

Types B and BO direct motor driven—Type C gear motor slow speed drives—Types M and N side entrance Mixers—Agitators with speeds from 5 R.P.M. up—Propellers, shafts, etc., made of bronze, stainless, monel, rubber covered, etc. Ask for Catalogue No. 75.



## INTERNATIONAL ENGINEERING, INC.

DAYTON, OHIO

When inquiring specify CEP3370 — see information request blank, pgs. 24-25

## Stencil Cutting Machine

**New Machine Increases Output 10 to 12%**



Made in three sizes for cutting 1", ¾" and ½" stencils, this NEW stencil machine operates with speed and economy for marking your shipments. Write for free booklet and prices.

**MARSH**

MARSH STENCIL MACHINE CO.  
35 Marsh Bldg. Belleville, Ill.

When inquiring specify CEP3371 — see information request blank, pgs. 24-25

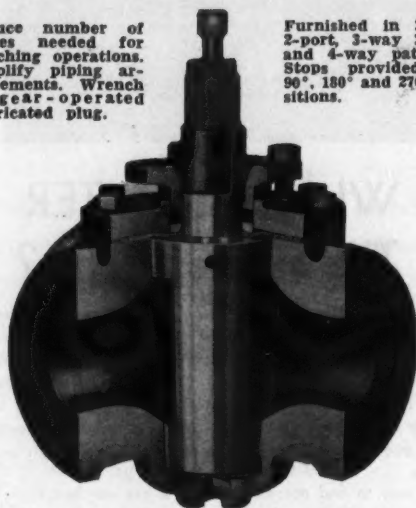
CHEMICAL EQUIPMENT PREVIEW



## NORDSTROM MULTIPORT VALVES

Reduce number of valves needed for switching operations. Simplify piping arrangements. Wrench or gear-operated Lubricated plug.

Furnished in 3-way 2-port, 3-way 3-port and 4-way patterns. Stops provided for 90°, 180° and 270° positions.



Request Bulletin

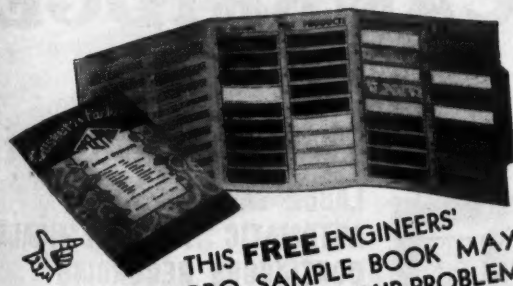
**MERCO NORDSTROM VALVE CO.**

Subsidiary of Pittsburgh Equitable Meter Co.

400 Lexington Ave., Pittsburgh, Penna.

When inquiring specify CEP3372 — see information request blank, pgs. 24-25

## NEED A BETTER GASKET?



**THIS FREE ENGINEERS' FEL-PRO SAMPLE BOOK MAY QUICKLY SOLVE YOUR PROBLEM**

**Contains Samples of Special Gasket and Packing Materials FOR EVERY INDUSTRIAL USE**

Are you looking for gasket and packing materials that will give your machines better, smoother performance and longer life? A FEL-PRO Engineered paper or felt material may serve your purpose or a material like FEL-PRO "NEOPRENE"—highly resistant to acids, alkalis, oils, grease, heat and compression.

You'll find just the material you need in this FREE Sample Book. Contains 36 different samples of FEL-PRO Gasket and Packing Materials with important specifications and facts for your engineering department. Write for this Valuable free sample folder through your purchasing agent. Felt Products Mfg. Co., 1515 W. Carroll Ave., Chicago, Ill.



When inquiring specify CEP3373 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### Trigger Control Fire Extinguisher

*Faster action; no carbon dioxide gas waste as trigger release shuts off flow*

**Features**—4 lb. model carbon dioxide fire extinguisher now has trigger control feature which permits extinguisher to go into action faster; also insures no wasting of carbon dioxide gas while operator is working around blaze as discharge is shut off when trigger is released. Over-size cylinder makes recharging easier and, as added safety factor, gives increased tolerance for high temperatures if unit is used near stoves, furnaces, etc.



TRIGGER CONTROL on fire extinguisher

**Description**—Extinguisher carries Underwriters' Laboratories rating of B-2 and C-2. Carbon dioxide capacity is 4 lbs., and average charged weight is 17 lbs. Average height, valve and cylinder is 17 1/4"; hose diameter is 3/8" pipe; hose length of 6'; and cylinder diameter of 4 1/2".

WALTER KIDDE & CO., Dept. CEP, Bloomfield, N. J.

When inquiring specify CEP3374 — see information request blank, pgs. 24-25

### Radial Fin Pipe Line Filter

*For water filtration; no moving parts; long operation without attention*

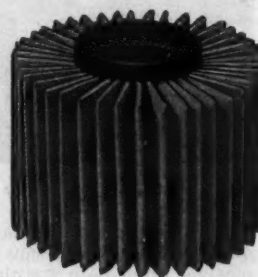
**Uses**—Many applications for users of hydraulic systems and humidifying apparatus; in paper and chemical plants, textiles and steel, etc.

**Features**—Radial fin construction permits a large area of filtering medium to occupy a relatively small space, thus a radial fin insert (see cut) only 11" high by 8 1/4" in diameter has active filtering area of 1325 sq. in. There are no moving parts in the filter and long periods of filtering operation are possible without any attention. Units can be so arranged that cleansing can be effected by backwashing with clean water.

**Description**—Construction is simple and filtering action is positive, all water passing through special fabric filter mediums having high efficiency plus minimum restrictions to water flow. When necessary, radial fin insert can be easily removed by unbolting head and removing one wing nut.

STAYNEW FILTER CORP., Dept. CEP, 25 Leighton Ave., Rochester, N. Y.

When inquiring specify CEP3375 — see information request blank, pgs. 24-25



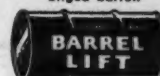
PIPE LINE FILTER has radial fins

## DRUM HANDLING UNIT ... "BARREL-LIFT"

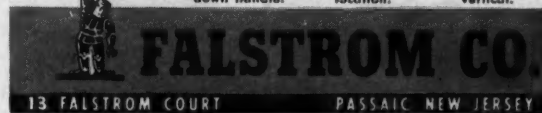
This new unit already in use in hundreds of chemical, petroleum, food products and manufacturing plants... Saves time and labor especially where drums are frequently tilted for dispensing contents... Prevents common drum handling accidents... Avoids waste leakage from permanently tilted drums... All-steel welded construction... Send for illustrated bulletin now.

**\$4000**

F.O.B. Passaic, N. J.  
Drum type shown.  
Special barrel type for bilged barrel.



Raise clinched drum by pulling down handle.  
Wheel vertically resting drum to Drum returns to vertical.  
Tilt for pouring.



When inquiring specify CEP3376 — see information request blank, pgs. 24-25



**The Newest, Most Complete Edition of**

**"The Answer To INDUSTRIAL DERMATITIS"**

40 PAGES, PROFUSELY ILLUSTRATED. NEW SECTIONS CONTAINING LATEST DEVELOPMENTS IN PREVENTION AND PROTECTION, including details of the amazing new Ply No. 9 which protects products against perspiration corrosion, in addition to preventing skin diseases among workers. Every man responsible for production should have this authoritative, practical guide.

**WRITE FOR YOUR Free COPY TODAY!**



When inquiring specify CEP3377 — see information request blank, pgs. 24-25

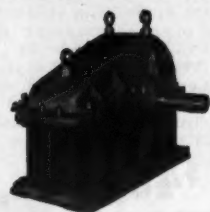
WE ARE READY TO SERVE YOU!

# D.O. JAMES

MAKERS OF ALL TYPES OF  
SPEED REDUCERS AND CUT GEARS



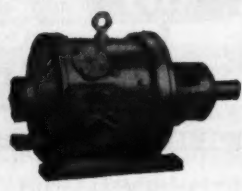
**Heavy Duty  
Worm Gear Reducer**  
Horizontal or Vertical Drive  
Ratios 6 to 45:1 1/4 to 150 H. P.



**Continuous Tooth  
Herringbone Reducer**  
Single, Double or Triple  
Ratios 2 to 350:1 1 to 800 H. P.



**Planetary Gear Reducer**  
Horizontal or Vertical Drive  
Ratios 4 to 1200:1 1/4 to 75 H. P.



**Right Angle Spiral Bevel  
Planetary Reducer**  
Horizontal or Vertical Drive  
Ratios 8 to 1200:1 1/4 to 50 H. P.



**Right Angle Spiral Bevel  
Herringbone Reducer**  
Ratios 6 to 45:1 2 to 250 H. P.



**Motorized Speed Reducer**  
Horizontal or Vertical Drive  
Ratios 1.2 to 9:1 1/4 to 50 H. P.



**Motorized  
Worm Gear Reducer**  
Horizontal or Vertical Drive  
Ratios 6 to 45:1 1/4 to 50 H. P.



**Motorized Speed Reducer**  
Horizontal or Vertical Drive  
Ratios 4 to 1200:1 1/4 to 75 H. P.

CATALOGS ARE AVAILABLE COVERING  
ALL TYPES OF SPEED REDUCERS

**D. O. JAMES MANUFACTURING COMPANY**  
ESTABLISHED 1888  
1120 WEST MONROE STREET • CHICAGO, ILLINOIS

FOR OVER 50 YEARS MAKING ALL TYPES OF GEARS AND GEAR REDUCERS

When inquiring specify CEP3378 — see information request blank, pgs. 24-25

## PRODUCTION

### Tilted Refiner, Rubber Reclaimer

*Increases maximum roll speed and lowers stock temperature simultaneously*

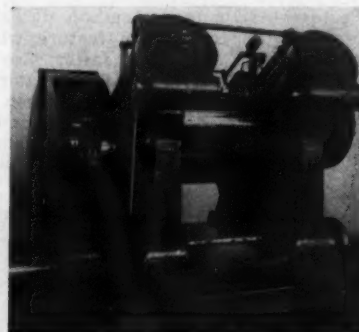
**Uses** — Offers increased production and improved quality in rubber reclaiming.

**Features** — Maximum roll speed is sharply increased and stock temperature is lowered simultaneously. Two rolls of tilted refiner are arranged so that center of hot or slow roll is above that of cold or fast roll, which is also the center of feed roll. Thus, with affinity of stock for cold or lower roll, stock cannot be forced over top of hot, slow roll but is returned by gravity to top of feed roll. Result is constant rolling bank of stock on feed roll, providing maximum feed to bite at lower stock temperature.

**Performance** — Maker states that users of new refiner find it easily possible to finish refine a full, solid sheet at a drive roll speed of 60 RPM or more.

FARREL-BIRMINGHAM CO., INC., Dept. CEP, Ansonia, Conn.

When inquiring specify CEP3379 — see information request blank, pgs. 24-25



TILTED REFINER, rubber reclaiming

### Single Pipe System for Lubrication

*Distributor must discharge lubricant from each outlet or operator receives warning*



SINGLE PIPE system for lubrication

**Uses** — Non-reversing, single pipe system provides positive forced feed lubrication. Applications on most all types of machinery.

**Features** — Maker states that system is less costly as it eliminates unnecessary pipes, intricate valves and expensive installations. Positive action provides that distributor must discharge lubricant from each outlet or operator receives immediate warning. **Description** — Distributor consists of a bank of three or more sections each of which discharges a known or measured quantity of lubricant alternately through one or two discharge outlets which are direct connected to bearings. Capacity of different sections of distributor may vary from .005 to .035 cu. in. Distributors can use either oil or grease as lubricant. Illustration shows a 6 outlet distributor operated manually with pressure gun; 6 outlet distributor fed from another distributor; and a 6 outlet, 12 outlet and 8 outlet distributor connected to a variable feed, multi-outlet pump. Pumps are available in 3 sizes having different reservoir capacities.

TRABON ENGINEERING CORP., Dept. CEP, 1814 East 40th St., Cleveland, Ohio.

When inquiring specify CEP3380 — see information request blank, pgs. 24-25



### Why Not FILTER The Simplest Way?

The Bird Continuous Centrifugal Filter fits today's filtration needs to a "T". It handles thick or thin slurries. Solids may be coarse or fine, crystalline or amorphous. The filter cake comes out unusually dry. Only a few gallons of slurry are in the machine at any given time but production is as high as you want — from a couple of hundred pounds to 120,000 pounds per hour — as the Bird Filter is built in five sizes.

It's easy to find out whether this is the one best Filter for your job. Write and tell us the problem and see what we have to say.

**BIRD MACHINE COMPANY**  
SOUTH WALPOLE • MASSACHUSETTS

When inquiring specify CEP3381 — see information request blank, pgs. 24-25

## CAMBRIDGE OXYGEN RECORDER

**LABOR SAVING  
AUTOMATIC ... NO CHEMICALS  
CONTINUOUS RECORDING  
NO INTERMITTENT SAMPLING  
SENSITIVE ... DEPENDABLE**



For use wherever maintenance of a definite amount of O<sub>2</sub> is required, or where operating safety is involved. Can be furnished with contacts for actuating control or alarm circuits. Recorders can be located at considerable distance from the sampling point. Special units for specific industrial conditions.

**OTHER CAMBRIDGE Recording GAS ANALYZERS**  
For use in Chemical, Steel, Cement, Explosives, Paper, Oil Refining, and other Process Industries. Also for Power Plants, Heat Treating Furnaces, etc.

Send details of your problem, for our recommendations.

**CAMBRIDGE INSTRUMENT CO., Inc.**

Pioneer Manufacturers of Precision Instruments  
3732 Grand Central Terminal, New York, New York

When inquiring specify CEP3382 — see information request blank, pgs. 24-25



## Protect metal surfaces with PRIMOID PRODUCTS

Rubber base Primoid compounds when applied to surfaces of tanks, pipes, pumps and other structures in chemical plants, will provide permanent protection against corrosion caused by fumes or even contact with acids, oil, alcohol, gasoline, brine and many other chemicals. Results are guaranteed. Send for literature giving details on Primoid Products. Try Primoid... it may solve a long standing problem.

**Primoid PRODUCTS**  
CORPORATION  
183 PARK AVENUE • NEW YORK, N. Y.

When inquiring specify CEP3383 — see information request blank, pgs. 24-25

### Harper's Bolts Don't Rust!

**BRASS**

**BRONZE**

**COPPER**

**EVERDUR**

**MONEL**

**STAINLESS**

EACH HARPER bolt, nut, screw, washer, rivet or other fastening is made of one or another of the metals listed at the left... resists rust, corrosion and other tough conditions. Easily cleaned.

Every facility of the Harper plant is pledged to serve the interests of... NATIONAL DEFENSE and important industrial requirements.

**THE H. M. HARPER COMPANY**  
2644 Fletcher St., Chicago, Illinois

## HARPER

Chicago

When inquiring specify CEP3384 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### Variable Speed Pulley

Turn of control wheel gives infinite selection of speeds while machine is running

**Uses** — Designed primarily for light, inexpensive machines which do not justify costly transmission installations. Adaptable to old or new machines.

**Features** — This balanced pulley has a short overhang, forced lubrication, balanced sheave and is of all metal construction. Curved pulley faces keep belt faces at full contact at all pitch diameters, prolonging belt life. Turn on control wheel gives infinite selection of speeds while machinery is running. Pulley offers means of modernizing old fixed speed equipment at low cost. Installation is easy as installing ordinary V-belt drive.

**Operation** — Complete unit includes variable pitch pulley and adjustable sliding motor base. By turning hand-wheel of the base, motor moves backward or forward causing an increase or decrease in belt tension. This action causes pulley to open and close, changing pitch diameter and driven speeds. Both parts of pulley move as motor is shifted so belt always remains in same center line plane.

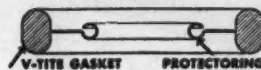
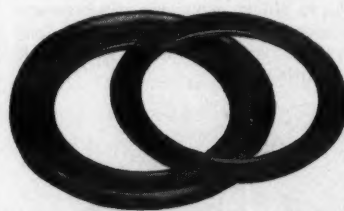
**Description** — Pulley mounts directly on motor shaft and requires only standard V-belts. Made in three sizes, from  $\frac{1}{4}$  to  $\frac{3}{4}$  H.P. capacity; speed ratios up to 2- $\frac{3}{4}$  to 1 available.

IDEAL COMMUTATOR DRESSER CO., Dept. CEP, 5073 Park Ave., Sycamore, Ill.

When inquiring specify CEP3385 — see information request blank, pgs. 24-25

### Auxiliary Seal for Ring-Type Joints

Protects inner surfaces of primary gasket & exposed flanges surfaces from chemical attack



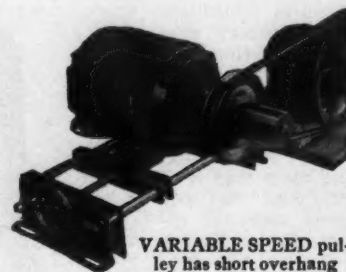
AUXILIARY SEAL

flange faces from chemical attack by the confined medium; (2) eliminate turbulence in pipe lines caused by eddying of flowing liquid in space between the mating flanges; and (3) prevent erosion in flange faces and primary gasket which results from scouring action of liquids in motion, especially high-velocity streams.

**Description** — "Protectorings" are furnished in any desired metal or combination of metals such as steel, stainless steel, Monel, aluminum, etc., and are available separately or in combination with V-Tite gaskets.

GOETZE GASKET & PACKING CO., INC., Dept. CEP, New Brunswick, N. J.

When inquiring specify CEP3386 — see information request blank, pgs. 24-25



VARIABLE SPEED pulley has short overhang

## AUTOMATIC

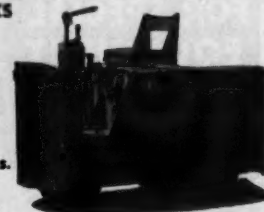
Manufacturers for over 30 years

### Electric Propelled INDUSTRIAL TRUCKS

#### FOR ECONOMICAL MATERIALS HANDLING

- LOW AND HIGH LIFT TRUCKS
- FORK AND RAM TRUCKS
- DIE HANDLERS
- PAPER PULP HANDLERS
- LOAD CARRIERS
- TRACTORS — CRANES

Capacities 1000 to 60,000 Lbs.



Model "TNN" Tractor with pneumatic tires. Has powerful spur gear drive, exceptionally compact and easy to maneuver. Rated DBP capacity 485 lbs. normal—2000 lbs. ultimate.

Platform Type "EN-2" 4000 lb. capacity.

Equipped with pneumatic tires. Exceptionally speedy and efficient for outdoor and ramp operation.

Platform deck 100" long, 51" wide, 29" high.

Has heavy duty spur gear drive — hand wheel steer — Rotor-Brush Power-Flow speed control.



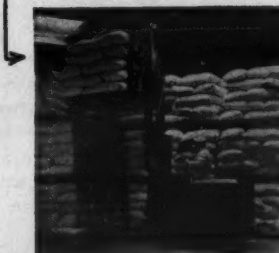
Model "CHTF"—Light-duty fork truck designed expressly for light unit load operation. Capacities 1000 and 2000 lbs. Has full telescopic fork lift 120". Collapsed height 83". Exceptionally compact for box car operation and narrow platform or aisle maneuvering.



Listed Under Examination Service of UNDERWRITERS' LABORATORIES



Model "THTF-L"—Fork truck offers new opportunities for lowest cost unit load handling and storage on pallets. Capacities 3000 to 7000 lbs. Standard telescopic lift 119". Collapsed height 83" for box car operation.



### AUTOMATIC TRANSPORTATION COMPANY

119 W. 87th Street Chicago, Illinois

When inquiring specify CEP3387 — see information request blank, pgs. 24-25

## CORROSION RESISTANT CASTINGS FOR SPECIAL EQUIPMENT



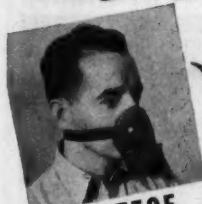
Are you developing new methods and new equipment to meet new manufacturing problems? Our facilities and experience in making special castings in any of the DURCO corrosion-resistant alloys will prove invaluable to you.

What we are doing for the leading manufacturers in 28 industries we can do for you. For an intelligent analysis, submit complete details and data.

**The DURIRON COMPANY Inc.**  
DAYTON - OHIO

When inquiring specify CEP3388 — see information request blank, pgs. 24-25

## All-in-One Protection AGAINST YOUR DUST HAZARDS



The New M. S. A. "ALL DUST"  
**SINGLE FILTER**  
FOR DUSTFOE and COMFO  
RESPIRATORS

Officially approved by the U. S. Bureau of Mines for protection against the inhalation of all types of dusts including lead.

Assurance of protection against each and every one of your dust hazards, whether pneumoconiosis-producing, nuisance or toxic dusts, is now provided in the single "All Dust" Filter for M.S.A. Comfo and Dustfoe Respirators—completely interchangeable with previous filters, and offering low breathing resistance, long service life, low cost! Write for the details, today.



**MINE SAFETY APPLIANCES COMPANY**  
BRADDOCK, THOMAS AND MEADE STREETS - PITTSBURGH, PA.  
District Representatives in Principal Cities

When inquiring specify CEP3389 — see information request blank, pgs. 24-25

## PRODUCTION

### Agitator Drives, 1/2 to 50 H.P.

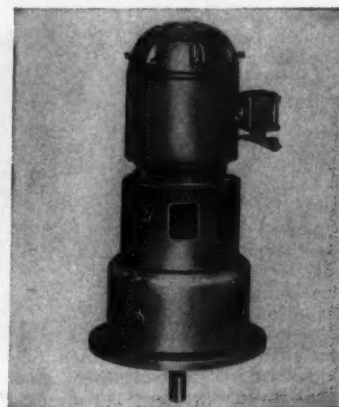
Uses planetary system of gearing; unlimited reduction ratio with 90% efficiency

**Features** — Utilizes the planetary system of gearing with many teeth in action. Provides smooth operation with greater reduction in given space, and tooth load is at minimum for any given torsional effort. Entire driving power is transmitted through teeth alone, insuring perfect load distribution. New unit is designed to use standard NEMA frame motors, thus permitting use of any make of motor.

**Description** — Helical gears are used throughout. Heat-treated alloy steel gears and shafts and Timken anti-friction bearings provide maximum strength and durability. Design permits an unlimited ratio of reduction. Any speed may be obtained in a complete size range from 1/2 H.P. to 50 H.P.

H. K. PORTER CO., Dept. CEP, 4935 Harrison St., Pittsburgh, Pa.

When inquiring specify CEP3390 — see information request blank, pgs. 24-25



AGITATOR DRIVE has planetary gearing system

### Pneumatic Impact Carriers

Roller units have thick wear-resisting treads, inflated and permanently sealed

**Uses** — Pneumatic roller, for carriers on belt conveyors, wherever shocks of impact are excessive. Especially designed for use under loading spouts and in belt feeders where the impact of heavy bulk loads subject both conveyor belt and carrier to abnormal strains and wear.

**Features** — Roller units have thick, wear-resisting treads and are inflated and permanently sealed to prevent loss of air. Assembly is built for easy servicing and quick replacement of damaged units.



PNEUMATIC CARRIERS take heavy shocks

**Description** — Rollers are made up of a series of pneumatic rubber units, 6" in diameter, somewhat like automobile tires, and have the advantage of pneumatic tires over the solid rubber tires—greater resiliency to shock and impact with increased life. Carriers are known as "Style No. 711 Pneumatic Impact Carriers."

STEPHENS-ADAMSON MFG. CO., Dept. CEP, 11 Ridgeway, Aurora, Ill.

When inquiring specify CEP3391 — see information request blank, pgs. 24-25



The sign of pumping efficiency in  
CHEMICAL PLANTS FROM COAST TO COAST

## BLACKMER • ROTARY • PUMPS

... will handle almost any liquid from naphtha to glue.

Put Blackmer economy to work in your plant.

Write for special Bulletin UB-320

## BLACKMER PUMP COMPANY

1849 Century Ave., S. W.

Grand Rapids, Mich.

When inquiring specify CEP3392 — see information request blank, pgs. 24-25

## FOR THE LIQUIDS YOU HANDLE -

## IT PAYS TO KNOW



**BOWSER**

### METERING

★ Many types of meters for processing, blending and measuring liquids, solids, etc. are available.

### FILTERING

★ Pressure, self-cleaning and gravity types for all beverages and many other liquids.

### PROPORTIONING

★ Proportioning systems for compounding and blending liquids. Accurate — positive.

### DISPENSING

★ Hand type self-measuring pumps, electric motor pumps, and automatic systems of many types.

### LUBRICATING

★ Complete oil-lubrication systems, filling applications, cutting oil systems, etc.

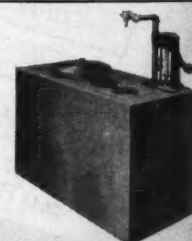
### FILLING

★ Manual or automatic oil filling units, barrel fillers, etc. all with built-in metering.

The name that, for fifty-six years has meant efficiency, in handling industrial liquids. A wide range of standard or special equipment is at your disposal. Check the list at the left—then write for details.

**S. F. BOWSER & CO., Inc.**  
1385 Creighton Ave. E.  
FORT WAYNE, INDIANA

Combination storage and dispensing units for oils, paint oils and other liquids mean cleanliness and safety.



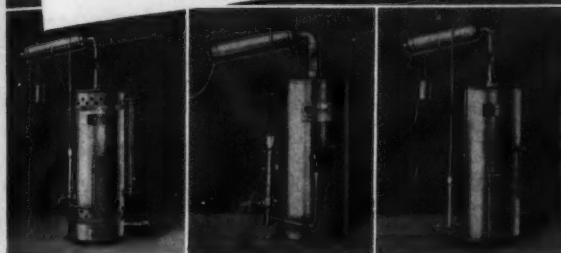
**BOWSER**  
LIQUID CONTROL SPECIALISTS SINCE 1885

When inquiring specify CEP3393 — see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW



## 3 EASY WAYS to make pure distilled water



### 1. WITH GAS 2. WITH STEAM 3. WITH ELECTRICITY

Barnstead Water Stills fit right in with your heating facilities. You can choose the heating medium most convenient and economical for you. Yet, no matter what type of Barnstead Still you select, the result is certain—you get the purest distilled water. And you get it at

low cost. All Barnstead heating elements are extremely efficient—insuring low maintenance and operating costs at all times.

Sizes range from ½ to 500 gallons per hour. Send for complete bulletin.

# Barnstead

STILL & STERILIZER CO. INC.

88 LANESVILLE TERRACE

FOREST HILLS, BOSTON, MASS.

When inquiring specify CEP3394 — see information request blank, pgs. 24-25



## BAKER TRUCKS are vital to industrial production

As war needs are again challenging the productive capacity of America, Baker trucks are recognized as essential equipment by government agencies. The Baker plant—its own productive capacity greatly expanded—is operating night and day to meet the vital requirements of the Army and Navy, government arsenals and private corporations striving for maximum output of defense materials. Baker Trucks, now on the Priorities Critical List of the O. P. M., belong on the "critical list" of every manufacturer faced with material handling bottlenecks—in peace or war. If you are seeking maximum productive efficiency from limited floor-space, machinery and man power, a Baker representative can probably suggest a solution.

BAKER INDUSTRIAL TRUCK DIVISION of the Baker Raulung Company  
2163 WEST 25TH STREET • • • CLEVELAND, OHIO

# Baker INDUSTRIAL TRUCKS

When inquiring specify CEP3395 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### Free Handle, Safety Shut-Off Valve

Manual reset, normally closed, for air, chemicals, gas, oil, steam, solvents and water



SAFETY SHUT-OFF VALVE,  
free handle, manual reset

Features — Any amount of friction in stuffing box cannot prevent valve from closing whenever solenoid is de-energized, because valve stem is disconnected from shaft when this action occurs. Complete operating head is mounted directly on valve body without an intervening stuffing box or other means of sealing. This construction with its release permits free action of valve disc at all times with no leakage. Valve discs are poppet type and not subject to friction when closing. Housing has means to prevent tampering.

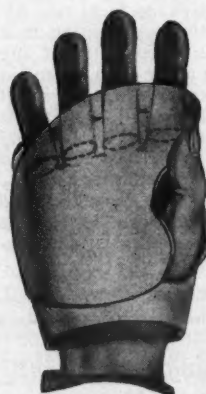
Description—These valves are normally closed type arranged so that they can be opened manually and will be held open, only while the release solenoid is energized. Operating mechanism is assembled in a cast iron pressure-tight enclosure with solenoid on top, and an external lever, arranged to operate mechanism by means of rotary shaft passing through a tightly packed stuffing box. Various sizes are available from ½" to 6", and of varying seat, disc and body materials. Some are direct acting and others are internal pilot operated. A holding current of approximately 16 watts, D.C., or 27 volt amperes A.C. is required. Explosion-proof solenoid available at small extra cost. Bulletin 8021 gives specifications and prices.

AUTOMATIC SWITCH CO., Dept. CEP, 45 East 11th St., New York, N. Y.

When inquiring specify CEP3396 — see information request blank, pgs. 24-25

### Bundler's Fingerless Handguard

Snug-fitting, chrome leather handguard gives palm protection with fingers and thumb free



BUNDLER'S HANDGUARD  
fingerless, leather



Uses — Designed specifically for use of "bundlers" when handling corrugated sheets and cases. Gives palm protection with fingers and thumb free.

Features — Extra leather patch over palm section for further strength. Handguard, being fingerless, fits snugly and gives freedom and flexibility for picking up, catching or handling thin materials.

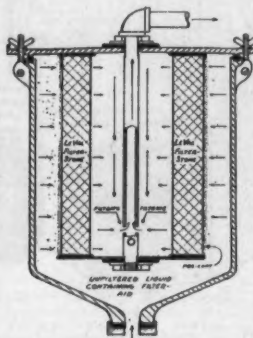
Description — Handguards are made in three sizes with adjustable snap buttons for fastening at back—small for women operators, medium and large for men. May be had in pairs, or for left or right hand only as required.

INDUSTRIAL GLOVES CO., Dept. CEP, Danville, Ill.

When inquiring specify CEP3397 — see information request blank, pgs. 24-25

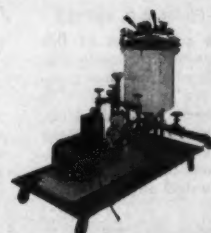
## LeVal POROUS STONE FILTERS clean without dismantling

The rigidity, strength and uniform porosity of the LeVal Filterstone provide greatly increased flow-rates per sq. ft. due to elimination of non-porous supporting members. High pressures for filtering and backwashing are practical and do not cause deflection of the filtering surface. Perfect support for all types of filter aids.



CLEANING is accomplished between runs by simple valve control without opening the filter. The Filterstone is easy to keep clean and sterile.

Since no paper or cloth is used, no fibres are ever found in the filtrate.



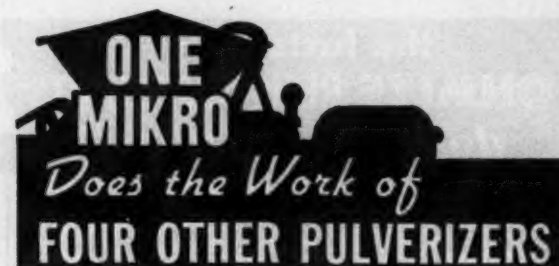
LeVal Filters can be furnished in any capacity for any filterable liquid. Write for booklet FILTERS and FILTERING DATA, No. 94.

## LEVAL FILTER COMPANY

1319 S. MICHIGAN  
CHICAGO

Sales and Service  
50 Church St., N. Y. C.

When inquiring specify CEP3398 — see information request blank, pgs. 24-25



Because of the Mikro's easy cleaning and adaptability it is often used to grind several different materials previously ground on three or four pulverizers. One such installation recently saved 3,600 sq. ft. of floor space.

Additional savings of 25% to 75% are often made in power with the Mikro. Remember, Mikro-Pulverizers will generally produce a finished material without fans, cyclones or separators.

Write for free test grind form and catalog.

### PULVERIZING MACHINERY COMPANY

114 Valley Road  
Roselle Park, N. J.



When inquiring specify CEP3399 — see information request blank, pgs. 24-25



## AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE FOR A-C. CIRCUITS

SPEED RANGES UP TO 12 TO 1  
SIZES 1 TO 15 HP.

### 1. REMOTE CONTROL

Starting, stopping and speed changing are controlled from any point to which a wire can be run.

### 2. A SPACE-SAVER

Power is applied where you want it without an intervening speed-changing device.

### 3. FROM A-C. SUPPLY

The advantages of this drive are now made possible at a new low price by the "packaged" VOS Speed Control Unit, connected by three wires to the 3-phase a-c. power circuit, it can be mounted anywhere.



ALSO — Quick stopping, speed setting, reversing, safe speeds for threading and inching, ample starting torque for all conditions. Write for Bulletin 307.

**Reliance Electric & Engineering Co.**

1079 Ivanhoe Road

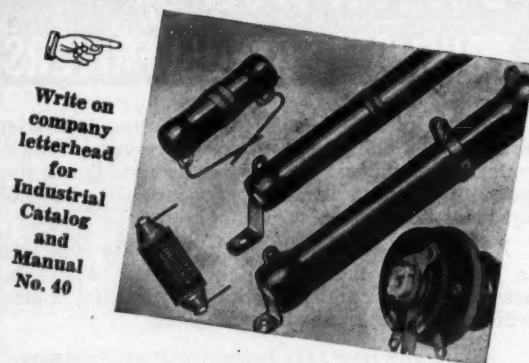
Cleveland, Ohio

Sales Offices in Principal Cities



When inquiring specify CEP3400 — see information request blank, pgs. 24-25

the facts prove . . .  
**OHMITE RESISTANCE UNITS**  
do each job right!



Ohmite Resistors, Rheostats and Tap Switches are built right to do the best job for their application—and proved right in all kinds of installations in laboratory apparatus, products, and production equipment, under all kinds of operating conditions. The wide range of types and sizes in stock or special units make it easy to fit your exact needs. Send us your specifications.

**OHMITE MANUFACTURING COMPANY**

4917 Flournoy Street ★ Chicago, U. S. A.

Be Right with **OHMITE**  
RHEOSTATS • RESISTORS • TAP SWITCHES

When inquiring specify CEP3401 — see information request blank, pgs. 24-25

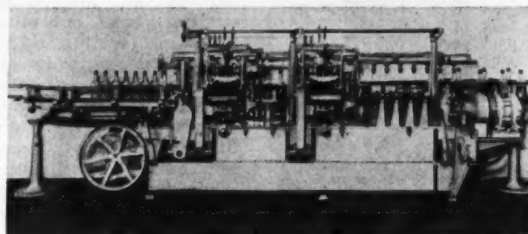
## PRODUCTION

### Automatic Straightaway Labeler

Automatic unit provides straight line movement of containers through entire length

Uses—For quantity production labeling of flat, square, round, oval or panel bottles, flasks or other containers. Labelers are equipped for applying front labels only or for applying both front and back labels in one operation, and also for applying neck labels simultaneously with the body labels.

Features—Straight line operation of containers through entire labeler permits continuous, smooth movement from infeed to discharge, thus doing away with stops or detours and eliminating shuttling, banging, jarring or



AUTOMATIC LABELER has twin labeling stations

jamming at feed station or anywhere along the line. Each individual container is automatically timed and positioned. Overhead bottle grip adjustment permits one man to easily adjust all bottle grips to different bottle size (as from quarts to fifths or pints) simultaneously. Machine has twin labeling stations to handle two bottles at once at same operating rate, thus doubling capacity without increasing optimum speed. Labeler may also be equipped with double discharge conveyor to separate containers and distribute them to two conveyors with labels facing packers on both sides of a packing table.

Description—Hand wheel raises or lowers all bottle grips simultaneously. Change from one size label, or from one size of shape container to another can be rapidly made. Operation is entirely automatic. Each label receives two separate and thorough wipings. High pressure Alemite lubrication is used throughout. Standard equipment includes motor unit with variable speed drive.

ECONOMIC MACHINERY CO., Dept. CEP, Worcester, Mass.

When inquiring specify CEP3402 — see information request blank, pgs. 24-25

### Lubricant Put In Collapsible Tube

Description—New collapsible tube package is in use for three types of lubricants for economical application to a wide range of mechanical equipment, especially of the smaller size. The tube is fitted with a one-inch extended nozzle for convenient fitting to filler openings in small gear cases, ball bearings, etc. Ball Bearing Lubriplate is one type packed in the new tube — designed for ball and roller bearings operating at speeds up to 5000 RPM and temperatures to 340 deg. F. No. 310 is another type — for use in gear cases of portable electric tools to stand high speed churning at high temperatures. No. 105 is the third type for marine motors and where rust and corrosion are problems.

FISKE BROS. REFINING CO., Dept. CEP, Newark, N. J.

When inquiring specify CEP3403 — see information request blank, pgs. 24-25

### Spray-Painting and Finishing Equipment

A complete line of industrial spray-finishing equipment is shown in this 28-page-and-cover catalog. The booklet is packed with data on such equipment as spray booths and guns, paint tanks and equipment, gauges, goggles, blowers, compressors, etc. Catalog "IE" is available on request.

DeVILBISS CO., Dept. CEP, Toledo, Ohio.

When inquiring specify CEP3404 — see information request blank, pgs. 24-25



## HARNESSED VIBRATION

Jeffrey-Traylor electric vibrating equipment (patented) transforms the alternations of A. C. current into high frequency mechanical vibration . . . harnesses this vibration to the work of feeding, conveying, cooling, drying, screening and packing.

Over 200 different materials can be profitably handled. Sizes: Run-of-mine to very fine dusty powders. Densities: from 5" to 150# per cu. ft. Moisture: dry to wet. Temperatures: atmospheric to 1500° F.

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J-T units give new conception to feed control — rate changed at will while running. No rotating or sliding mechanism — no bearings — no lubrication — no mechanical adjustments.

J-T No. 5 heavy duty electric vibrating feeder. Small capacity reagent feeder is shown at the top.

Let us send you Catalog No. 650 which pictures and describes Jeffrey-Traylor equipment.

## THE JEFFREY MANUFACTURING COMPANY

853-99 NORTH FOURTH STREET

COLUMBUS, OHIO

Baltimore  
Birmingham  
Boston  
Buffalo  
Chicago

Cincinnati  
Cleveland  
Denver  
Detroit  
Houston

Huntington  
Milwaukee  
New York  
Philadelphia  
Pittsburgh

St. Louis  
Salt Lake City  
Scranton  
Terre Haute

When inquiring specify CEP3405 — see information request blank, pgs. 24-25



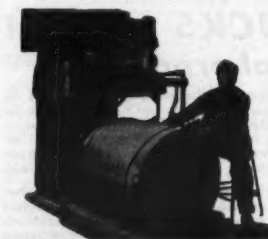
"get in touch  
with Multi-Metal!"

Thirty years specialized experience in fabricating wire cloth and metal assemblies with unrivaled skill is yours for the asking.

Always alert to changing conditions and new developments Multi-Metal will meet your requirements with applications proven definitely right.

For quick and intelligent response to your needs, simple or complex . . .

Get in touch with Multi Metal.



**MULTI-METAL**  
WIRE CLOTH COMPANY  
INCORPORATED  
5111 GARRISON AVE. BRONX, N.Y.



When inquiring specify CEP3406 — see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW





## Handle Goods Faster!

Elwell-Parker Fork Trucks, for high-tiering pallet- or skid-loads in boxes, barrels, bags and bales, earn for you in time, floor space, ground rents, taxes. They literally cram warehouses to the limit with pay loads, tiering filled pallets one on another to roof girders.

Center Control Fork Trucks (above) are matched by equally modern Elwell-Parker End Control Units. Five other standard Types, with attachments to suit, provide cost-reducing Systems of Load-Transportation best adapted to your industry and product. The Elwell-Parker Electric Company, 4239 St. Clair Avenue, Cleveland, Ohio.



When inquiring specify CEP3407—see information request blank, pgs. 24-25



## Therm-O-flake INSULATION BRICK

One of lightest insulation brick available—(about one pound each).

Has low thermal conductivity, and is most economical for efficient insulation.

Can be compacted without breaking and cuts easily. Especially valuable for back up work behind fire brick walls.

Acts as expansion cushion between furnace walls and binding structure.

Write for Information and Prices

Other **Therm-O-flake** Products

Made from Exfoliated Vermiculite

Granules - Brick - Block - Concrete



JOLIST, ILL.

When inquiring specify CEP3408—see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### Momentary Push Button Switch

*Explosion-proof, dust-tight, vapor-tight and weatherproof unit*



MOMENTARY  
SWITCH . . .  
explosion-proof

**Uses**—Known as "Unilets," are for use on oil-immersed or air-break switches.

**Features**—Switches are operated by a threaded shaft with rocker handle, which is protected by guards with holes for locking handle in any desired position. Bottom of "Unilet" has dome-shaped cover or tub (see cut with tub removed) which, when filled with oil to level mark, will immerse entire switch in oil. Threaded cover on top of body gives ready access to switch. Four-wire connection block simplifies connection of "lead-in" wires.

**Description**—Body of "Unilet" has vertical through-feed hubs for threaded conduit. One end is equipped with removable close-up plug so that "Unilet" may be used for either dead-end or through-feed wiring. Made in various styles—single or double operating handle, normally open or closed (or both) types of circuits, etc. Outside dimensions are 5 7/8" high, 4 7/8" wide, 7 3/4" long.

APPLETON ELECTRIC CO., Dept. CEP, 1701 Wellington Ave., Chicago, Illinois.

When inquiring specify CEP3409—see information request blank, pgs. 24-25

### Motorized Extractor Unit

*Will extract any semi-solid material from drums at rate of 5 gals. each 4 minutes*

**Uses**—Low-cost device for use in extracting heavy liquids and semi-solids of all kinds such as plastics, greases, heavy oils, plastic roofing cements, warm salves, face creams, etc., from bulk drums to such containers as small jars, cans, tubes, cartridges, etc.

**Features**—Maker states that the extractor will take out any semi-solid materials through a 1 1/2" tube at the rate of five gallons each four minutes. Extracts material with an even flow

—no air pockets. Positive and instantaneous shut-off when clutch is released. Quickly and easily changed from drum to drum, can be set up and ready to operate in ten minutes.

**Performance**—In actual production, this motorized unit is filling 9" by 2 1/4" fibre caulk cartridges at the rate of 100 to 125 per hour, depending upon efficiency of the operator, or 800 to 1000 per 8-hour day.

**Description**—This electrically operated unit is furnished complete with one-quarter horsepower motor, belt, clutch, extractor, flow pipe, wing nuts, counter-balancing chain, bolts and nuts. Two models—for 1 1/2" and 2" drum openings. One operator is required.

CREWE TOOL & MFG. CO., Dept. CEP, 16795-7 Euclid Ave., Cleveland, Ohio.

When inquiring specify CEP3410—see information request blank, pgs. 24-25

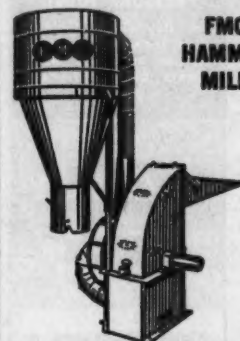


EXTRACTOR withdraws  
semi-solids from drums

## NEW and REBUILT EQUIPMENT

**For Food, Chemical & Allied Industries**

**Immediate Delivery - - Unconditional Guaranty**



FMC  
HAMMER  
MILL

America's largest processing corporations as well as many in Latin America are finding scarce, wanted equipment at FMC. We can ship at once.

Kettles, Tanks, autoclaves (all metals) Vacuum Pans, copper, glass lined etc. Hammer Mills, Grinders, Pulverizers, Mixers, Filters, Presses, Extractors, Fillers, Labelers and Cappers, Centrifuges, Dryers, Pumps.

Colloid Mills, Emulsifiers, Tablet Machines, Tube Fillers, Roller Mills, Pumps, Trucks, Packaging and Wrapping Equipment.

Pebble and Ball Mills, Disintegrators, Hydraulic and Toggle Presses, Plastic Moulding and Rubber Machinery, Agitators, Conveyors, Elevators.

Send for Catalog, First Facts on Quotations

## FIRST MACHINERY CORPORATION

GUARANTEED  
EQUIPMENT

F. M. C.

LIQUIDATORS  
APPRAISERS

EAST 9th STREET  
and EAST RIVER DRIVE

GRANVILLE 7-6622

NEW YORK, N. Y.

When inquiring specify CEP3411—see information request blank, pgs. 24-25



**PREVENT CORROSION LOSSES  
AND METALLIC CONTAMINATION**

**Use CARBON  
GRAPHITE and  
KARBATE**  
CONSTRUCTION  
MATERIALS

Carbon, Graphite and "Karbate" materials are adapted to wide application in the chemical process, metallurgical and other industries. They resist action of most corrosive materials, have high heat transfer and are readily machined. Their use eliminates metallic contamination of product. They are used for conveying, storage, processing, evaporating, heat exchange and other applications.

Write us about your problems today.

## NATIONAL CARBON COMPANY, INC.

Unit of Union Carbide and Carbon Corporation

CARBON SALES DIVISION, CLEVELAND, OHIO

General Offices: 30 East 42nd St., New York, N. Y.

Branch Sales Offices: New York, Pittsburgh, Chicago, St. Louis, San Francisco

When inquiring specify CEP3412—see information request blank, pgs. 24-25

**NO HELP  
WANTED**

Here is a stuffing box  
that needs no oiling,  
adjusting or repacking

TO users of the Johnson Rotary Pressure Joint all the troubles of the old style stuffing boxes and steam fits are a thing of the past. No more tinkering, no more valuable production time lost while machines are shut down to repack or replace stuffing boxes. No more trouble from misalignment, either.

Besides being a better way to get steam into rotating rolls, the Johnson Joint makes possible modern, more efficient methods of roll drainage—has helped to step up production as much as 25%. Hundreds of installations, in all branches of industry, offer conclusive proof that the Johnson joint will bring these same savings—pay its own way—in your plant.

Write for new bulletin

The Johnson Corporation

830 WOOD ST., THREE RIVERS, MICH.

When inquiring specify CEP3413—see information request blank, pgs. 24-25

## Combine Any of These AND SAVE TIME SPACE LABOR EQUIPMENT

FILTRATION  
CLARIFICATION  
DECOLORIZING  
DEODORIZING  
WASHING  
THICKENING  
EXTRACTION  
DISSOLVING  
REACTION  
MELTING  
HOMOGENIZING  
DRYING

Shriver Filter Presses offer possibilities for processing economies never before offered in a single equipment. Built of any material for any practical pressure, temperature and flow rate, their design permits definite combinations of processes which would otherwise require separate equipment, more space and time.

In one Shriver Filter Press you can (1) filter, wash, extract, and dissolve the cake or (2) filter under refrigeration and then melt out the cake or (3) continuously thicken or wash to speed up output in much less space. Plenty of other combinations like these. Write for complete data to T. Shriver & Company, 846 Hamilton Street, Harrison, New Jersey.

**Shriver** FOR BETTER FILTRATION  
**FILTER PRESSES**

When inquiring specify CEP3414—see information request blank, pgs. 24-25

## PRODUCTION

### Abrasive Mask for Sandblasting

Full efficiency and low cost operation claimed  
for 2 to 9 lbs. per sq. in. pressure



ABRASIVE MASK operates at  
2 to 9 lbs. per sq. in.

**Uses**—For use in those industries in which harmful dusts of intense or lesser density are encountered during periods of extensive exposure, particularly in sandblasting operations.

**Features**—Mask bears U. S. Bureau of Mines Approval No. 1918. Excessive pressure of clean air to facepiece is eliminated by fully automatic relief valve.

**Operation**—Air under regulated pressure passes through the filter cartridge where foreign particles and odors are removed. Incoming air strikes a baffled wall upon entering the facepiece to accomplish more even distribution and circulation of air supply to promote comfort, coolness and normal respiration. A control valve regulates flow of clean air to facepiece. Exhaled air is released through a one-way exhaust valve which prevents dust-laden air from entering the facepiece, the released air circulating within the outer hood. **Description**—Mask consists of a soft moulded rubber facepiece with large replaceable laminated glass lenses, head harness and corrugated tube, filter unit with replaceable cartridge, air regulating valve, pressure-relief valve, quick-acting detachable coupling and approved hose which connects to air supply. In use, mask is completely covered by pure gum rubber Duratex hood for protection of head, neck and shoulders. Hood lens holder is fitted with an inner laminated glass window and an outer screen of course metal. Bulletin No. 802 gives details.

CHICAGO EYE SHIELD CO., Dept. 41, 2362 Warren Blvd., Chicago, Ill.

When inquiring specify CEP3415—see information request blank, pgs. 24-25

### Portable, One-Ton Electric Hoist

"One-hand" control provides operating convenience  
and leaves other hand free to direct load

**Uses**—Suitable for all types of hoisting. Available with hook suspension for portability, or with a trolley attached for overhead conveyance.

**Features**—"One-hand" control provides operating convenience and leaves one hand free to direct load into position. Emergency brake plus automatic upper and lower limits guard against hoist abuse and provide complete safety.

**Description**—Special heavy-duty, high-torque motors are supplied for either 110 volt lighting circuits, or 220 or 440 power lines. Double plate sealed, permanently lubricated ball bearings are provided at all rotating points. Gears are heat-treated alloy steel. Load brake is smooth, quick-acting and positive to prevent "drifting" of load. CHISHOLM-MOORE HOIST CORP., Dept. CEP, Tonawanda, N. Y.

When inquiring specify CEP3416—see information request blank, pgs. 24-25



ONE-TON HOIST,  
electric, portable

## A NEW CATALOG OF

# SYNTRON

"Vibratory"

## MATERIAL HANDLING EQUIPMENT

That Shows Many Ways You Can  
Increase Production  
Improve Product Quality  
Cut Labor Costs  
Increase Profits

Includes Information on how to:—

- Make stubborn materials flow freely out of bins, hoppers and chutes.
- Feed bulk material to grinders, dryers, screens, etc. — with rheostat control of flow.
- Convey material, by vibration, with an entire absence of abrasion and pollution.
- Weigh feed material — in a continuous flow — or in batches — to exact weight.
- Pack more material into barrels, drums, cartons, etc. — by vibrating or by jolting.

YOURS FOR THE ASKING

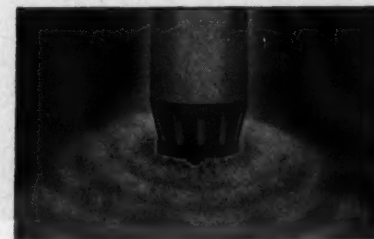
SYNTRON CO.

110 Lexington Ave.

Homer City, Pa.

When inquiring specify CEP3417—see information request blank, pgs. 24-25

## SPRAY-DRYING ...FROM LIQUID TO POWDER



There's no magician's skill in the BOWEN Process — just good sound engineering. BOWEN spray-drying equipment will concentrate, dry and powder highly fluid materials as well as thick pastes and heavy creams . . . with the production of uniform particle size . . . within five seconds. Write for illustrated literature describing BOWEN equipment; no obligation.

BOWEN Engineers are available for consultation and will aid you in your drying problems. Write today.

**BOWEN** RESEARCH  
CORPORATION

10 MAPLE STREET • GARWOOD, N. J.

When inquiring specify CEP3418—see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW



**YOURS FOR THE ASKING FREE!**

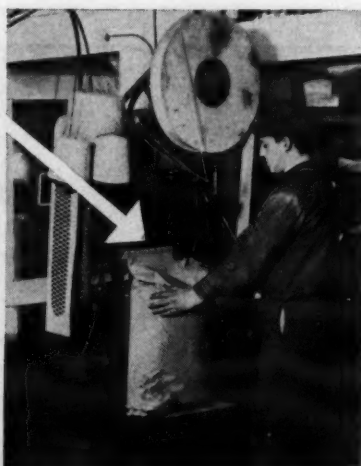


This folder deals with one of industry's oldest problems — the removal or separation of solids in suspension — and suggests a new and better way of efficiently and economically solving this problem. A request on your company letterhead, will bring a copy by return mail.

**NICHOLS**  
ENGINEERING & **NERCO** RESEARCH CORP.  
12 Wall Street New York, N.Y.

When inquiring specify CEP3419 — see information request blank, pgs. 24-25

**HERE'S  
HOW  
TO  
CLOSE**



**Multi-Wall Paper Bags**

GETTING strong, neat, leak-proof closures for multi-wall paper bags is no problem when you have a Union Special bag closing machine equipped with the new Style 80600 H sewing head. This unit is fitted with a reel for 2½" to 2½" crepe tape, a tape folder, an automatic tape clipper, and a filter cord attachment that feeds a filter cord into the seam. Size of bags handled ranges all the way up to six-ply 100 lb. bags. In typical installations, output averages ten to twelve 100 lb. bags per minute. Complete information on request. Write to UNION SPECIAL MACHINE CO., 442 N. Franklin St., Chicago, Ill.

**UNION SPECIAL**

When inquiring specify CEP3420 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### Sound-Proof Conference Booth

Portable, doorless unit has sound absorbing walls to blot out extraneous noise

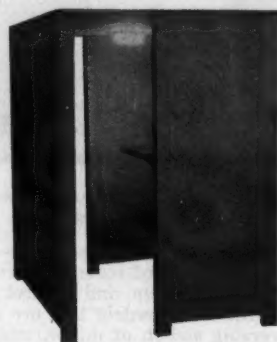
Uses — For use in noisy plants where a quiet conference place is required; where several telephones may be installed in one location; for testing operations such as listening for noise in electric motors; and may even be used as temporary miniature office in new or remodeled factories where construction is not yet complete.

Features — Sound-absorbent construction soaks up extraneous noise to provide quiet spot amid noisy surroundings. Doorless entrance at each end permits ready access to booth and provides ample natural ventilation. Acoustic construction makes doors unnecessary. Unit is easily portable and can be assembled and ready in a few minutes time. Folding table 23½" by 24" and overhead light fixture add to booth's convenience.

Description — Constructed of heavy gauge steel and finished in black wrinkle finish on the exterior, with gray interior. Outside dimensions are 56½" long, 54½" wide and 79½" high. Shipping weight is 1000 lbs.

BURGESS BATTERY CO., Dept. CEP, 528 West Huron St., Chicago, Ill.

When inquiring specify CEP3421 — see information request blank, pgs. 24-25



CONFERENCE BOOTH blots out extraneous noise

### Vacuum-Pressure Pump and Motor

Rotary type, pump and motor integral unit, operates without gears, springs or valves



VACUUM-PRESSURE PUMP & motor in one unit

able. 27" vacuum easily reached, maker states.

Description — Pumps are made in three models with G. E. motors of 1/12, 1/6 and 1/4 H.P. Compactness is achieved in standard speed motor of 1750 RPM—1/12 H.P. capacity in usual frame size of 1/20 H.P. Models weigh 21, 29 and 38 lbs. Slight adjustment converts pump from vacuum to pressure service. Pump and motor measure 8½" long by 4½" in diameter for small model. Air capacity of small model is 0.5 C.F.M. Accessories include everything necessary for both vacuum and pressure operation, with gauges, regulating valves, mufflers and hose nipples. Form 441 gives specifications and performance tables. GAST MFG. CORP., CEP, 123 Hinkley St., Benton Harbor, Mich.

When inquiring specify CEP3422 — see information request blank, pgs. 24-25

Uses — Three models for laboratory and industrial use, for both vacuum and pressure service.

Features — Complete as motor and pump are one integral unit. Unit has completely visible automatic oil feed. Automatic shaft seal—no packing or adjustment. Reduces friction and stops oil leaks. Composition vanes, no springs and automatic take-up for wear. Light-weight, compact and portable.

## DOUBLES THE LIFE OF CONVEYOR BELTS

Wing Type

Tail Pulley



**SAVES WEAR**

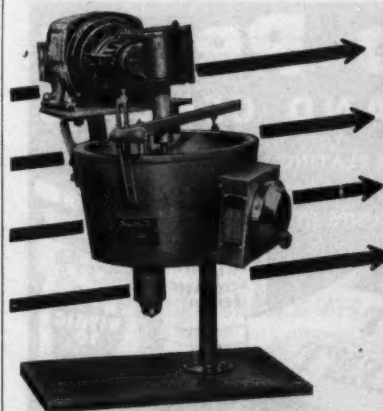
**AT THE VITAL POINT** Heaviest wear on conveyor and elevator belts carrying stone, sand, ashes, ore and other sharp abrasive materials comes from the material that falls on the under side of the belt and is carried around to be ground into belt by the pulley face. The exclusive Sprout-Waldron Wing-Type pulley prevents this material from getting between pulley and belt and automatically discharges it to the side, saving 50% and more on belt replacements. Interchangeable with standard pulleys. Write for specifications and prices on this and other money-saving Sprout-Waldron power transmission appliances.

**SPROUT, WALDRON & CO. INC.**  
181 SHERMAN ST. HUNCT, PA.

Manufacturing Engineers . . . Since 1866

CRUSHING, GRINDING, GRADING, PACKING, ELEVATING  
CONVEYING, MIXING AND POWER TRANSMISSION MACHINERY

When inquiring specify CEP3423 — see information request blank, pgs. 24-25



**Features That Will Save You Money**  
Economical Electric "Dry" Heat  
No Oil, Steam, Water Coils  
Uniform Heating Sides & Bottom  
Low Heat Concentration  
Accurate Thermostatic Control—Fixed or Selective  
Heated Non-freeze, Non-clog outlets  
No cold spots, carbonization, line hazards

### Precision Compound Heating

The chemical peculiarities of the lipstick compound that was to be heated in this Sta-Warm required Monel construction throughout, plus a slow-speed motor-driven agitator . . . The heater is used as example of how readily Sta-Warm engineers can apply Sta-Warm's 6 basic and exclusive features (listed) to solve your compound heating problems . . . All Sta-Warms from 2 qt. to 100 gal., in many shapes and types, include these same 6 features . . . If your cost records show you could improve your compound heating operations, Investigate Sta-Warms today.

Write for Details

**Sta-Warm**

**STA-WARM ELEC. CO.**

999 N. Chestnut St., Ravenna, O.

Complete Equipment for Heating, Pouring, Conveying Compounds

When inquiring specify CEP3424 — see information request blank, pgs. 24-25



## Can we afford to let DERMATITIS slow down our Defense Program?

Workers' hands are industry's most important tools—tools that are today speeding up America's defense program. Help protect your workers' hands against skin infection and dermatitis with Formula SBS-11, the safe, industrial skin cleanser. Costs less than 1c a week per worker; removes grease and grime quickly and easily. Write today for generous free trial supply of Formula SBS-11 to Sugar Beet Products Co., 300 Waller Street, Saginaw, Mich. Igan.

**Formula SBS-11**  
THE WASHWORD OF INDUSTRY

When inquiring specify CEP3425—see information request blank, pgs. 24-25

## ACID-PROOF BRICK AND CEMENTS

For CHROMIUM PLATING TANKS, ACID-PROOF FLOORS, PICKLING TANKS, SUMPS, ETC.

**PROMPT SHIPMENT**

Our **DENSITE** Acid-Proof Chemical Brick is unexcelled for density, hardness, strength and maximum corrosion resistance. Or, where conditions justify, lower-priced brands of "U. S." Acid Brick are available that will give good service and save much money. Write for Bulletin No. 802B. "VITRIC - 10" Chemical-Hardening and Quick-Setting Acid-Proof Cement adheres strongly to brick, steel, glass and rubber. Save days and days in setting up acid-proof masonry. Write for Bulletin No. 801B.

"TYGON" Corrosion Resistant Paint for protecting metal, concrete and wood surfaces against the most severe corrosion conditions. Write for Bulletin No. 1612B.

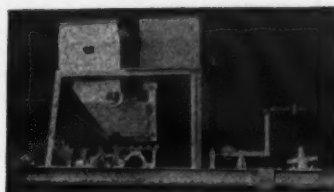
**THE U. S. STONWARE CO.**  
AKRON, OHIO

When inquiring specify CEP3426—see information request blank, pgs. 24-25

## PRODUCTION

### Electrically Controlled Poidometer

Equipped with motor operated regulating gate



POIDOMETER has motor operated regulating gate

**Construction and Operation**—Weighing roller, located in exact center of scale platform, is connected by means of weighing beam and control rod to control box. Limit switches in control box are electrically connected to reversing switch of motor, which is coupled to worm gear unit. Output shaft of worm gear unit is connected to regulating screw. Drop weights are placed in position and slide weight is moved to proper setting on scale beam to give desired amount to material per foot of belt. Poidometer is then put in operation by pressing push button. If weight of material on scale platform is greater than weight on scale beam, weighing roller is depressed and control rod makes contact with limit switch which immediately starts motor lowering regulating gate. Gate continues to lower until weight of material on scale platform balances weight on scale beam.

**Description**—Poidometer completely equipped includes a driving mechanism, recording device enabling operator to determine amount of material delivered in any specified time, and an automatic control gate that stops poidometer when supply of material reaches a certain level in the hopper. Poidometers can be wired in series, and stoppage of either poidometer motor or regulating gate motor by overload relays or safety limit switches will stop motors on all poidometers. Various models are available in light and heavy duty capacities (from 3 to 300 tons per hour), and in belt widths of from 6" to 48", with various sizes of scale platforms.

SCHAFFER POIDOMETER CO., Dept. CEP, 2828 Smallman St., Pittsburgh, Pa.

When inquiring specify CEP3427—see information request blank, pgs. 24-25

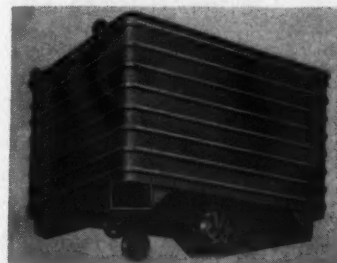
### Steel Tying Dump Box

Fork pockets permit lifting, turning and dumping box with lift truck

**Uses**—Designed especially for use with lift trucks equipped with revolving type forks. For handling scrap, small metal parts, castings and many loose materials.

**Description**—Special fork pockets are welded to bottom of box at either end and run full length of box. When forks are inserted in these two pockets, box can be lifted, turned completely over for dumping, then righted again. Top flange of box can be equipped with tying or crane lugs for storage and handling. Ends of pockets are cut at 45 deg. angle so that they do not extend beyond sides. Casters facilitate short spotting and permit box to be moved easily between machines. Rugged, all-steel construction. UNION METAL MFG CO., Dept. CEP, 1432 Maple Ave., Canton, Ohio.

When inquiring specify CEP3428—see information request blank, pgs. 24-25



DUMP BOX... steel tying

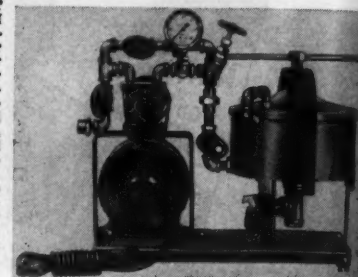
## STEP UP PRODUCTION WITH HIGH-SPEED FILTERING

SPARKLER FILTERS Anything from the Heaviest Wax to the Most Volatile Chemicals...

### FASTER—AT LOWER COST

**FROM PILOT PLANT THROUGH PRODUCTION**—There's a Sparkler filter to meet every requirement in your business. This advanced-type equipment is engineered to cut filtering time, improve quality and reduce costs. It filters anything from heaviest wax to the most volatile chemicals—faster, more efficiently than any other unit on the market.

Advantages include greater speed and capacity; completely enclosed to prevent leakage and evaporation; intermittent service without disturbing clarity; savings in filter aids; and easy cleaning. Steam jacketed units available. Capacities from 1 pint to 10,000 g.p.h.



## SPARKLER Horizontal Plate FILTERS

Write for complete details

**SPARKLER Manufacturing Co.**

Dept. G.

Mundelein, Illinois

When inquiring specify CEP3429—see information request blank, pgs. 24-25



**THIS New Booklet GIVES A CLEAR, CONCISE UNDERSTANDING OF OVERHEAD MATERIALS HANDLING**

This 12-page illustrated booklet starts your train of thought and carries you through the steps necessary to determine where and what equipment might be used profitably. Write for Booklet 2004-A on your company letterhead.

**CLEVELAND TRAMRAIL DIVISION**  
THE CLEVELAND CRANE & ENGINEERING CO.  
1193 East 283rd Street, Wickliffe, Ohio

**CLEVELAND TRAMRAIL**  
OVERHEAD MATERIALS HANDLING EQUIPMENT

Other products: CLEVELAND CRANES — STEELWELD MACHINES

When inquiring specify CEP3430—see information request blank, pgs. 24-25



## This New WELD-BILT HYDRAULIC LIFT TRUCK...

### • Saves Material-Handling Labor and Expense •

"Handles like a dream!" is the verdict of many workmen using this new WELD-BILT Truck! It's a Streamlined Beauty — and WORKS even better than it looks. Engineered for easy mobility, greater efficiency, economy, and safety, longer life — it has many new features that place it in a class by itself... The INTERCHANGEABLE HORIZONTAL-LY-MOUNTED Hydraulic Unit, for instance, and new Handle Control accuracy and ease. Find out what this "Engineering Triumph" will do for YOUR materials-handling problems! It's available in capacities from 2500 to 10,000 lbs., narrow or wide widths. Latest Bulletin is YOURS for the asking! It may start you to saving and new production profits.



**WEST BEND EQUIPMENT CORP.**  
WEST BEND WISCONSIN

226 SOUTH WATER STREET

• Materials Handling Engineers, Manufacturers of Portable Elevators, Two-Wheel and Four-Wheel Trucks, Skid Platforms, Barrel Racks, Tying Machines, and Materials Handling Equipment for special needs.

When inquiring specify CEP3431 — see information request blank, pgs. 24-25

## Waste Water Savings

Screening  
waste water  
recovers  
valuable solids  
... reduces  
pollution!



Link-Belt vibrating screen with a 24' x 48' screening surface, as used for separating solids from waste water at a cherry canning plant.

Most industries have the common problem of how to handle waste water in order to reduce pollution and clogging of streams they use for such disposal. The answer to this problem has brought an extra benefit, for by screening their waste-water many plants are recovering valuable solids and, at the same time, definitely reducing pollution.

### SEND FOR THIS FREE FOLDER

Write today and see how a Link-Belt vibrating screen can solve your waste water problem. Change an expense to a profit—write for your copy of this new folder now! Ask for No. CEP1877.

**LINK-BELT COMPANY**  
307 N. Michigan Ave., Chicago

2830

**LINK-BELT** Vibrating **SCREENS**

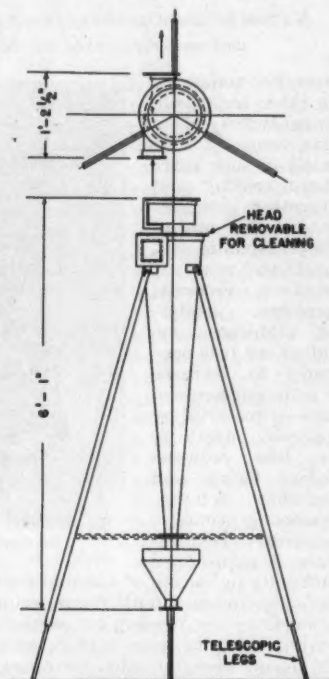
When inquiring specify CEP3432 — see information request blank, pgs. 24-25

SEPTEMBER-OCTOBER, 1941

## PRODUCTION

### 75 Lb. Portable Dust Collector

**Features** — Portable unit, mounted on three legs, pivoted at top, is held at the center by chains so that the legs may be folded and the complete unit carried to any location. Three-quarter-inch pipe can be installed in the one-inch pipe legs, telescoping to any desired height. **Performance** — Of the centrifugal type, the collector has an air capacity of approximately 200 feet per minute with a draft loss of 8 inches when operating on atmospheric air at 70 deg. F. and normal pressure. Efficiency varies between 95 and 99 per cent.



DUST COLLECTOR,  
75 lb. portable unit

BOWEN RESEARCH CORP., Dept. CEP, Garwood, N. J.

When inquiring specify CEP3433 — see information request blank, pgs. 24-25

### Guard For Air Motored Mixer



GUARD RING protects  
air motored mixer

**Uses** — Metal ring guard for air motored mixer also acts as a stand, and is available on clamp-type portable mixers.

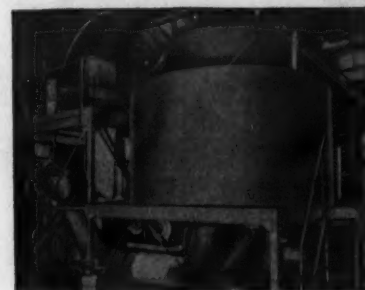
**Features** — The ring guard protects the propeller from contact with the mixing vessel when in use, and provides an easy means of storage as it eliminates necessity for suspending mixer when not in use. Four metal supports that hold the guard ring in place protect the shaft and prevent its getting out of alignment. Two metal handles alongside air motor, at top of frame, facilitate lifting agitator from mixing vessel.

ECLIPSE AIR BRUSH CO., Dept. CEP, 393 Park Ave., Newark, N. J.

When inquiring specify CEP3434 — see information request blank, pgs. 24-25

To get **CHEMICAL EQUIPMENT PREVIEW** for your key men, see 'request slip'... page 24 and 25.

## They made fast drying INSTANTANEOUS



As left is illustrated, a typical installation.



Send for New Booklet  
A new booklet describing in detail Turbulaire Spray Drying is available.

Turbulaire Spray Dryers speed up the processing of solids from suspensions, solutions and thin slurries to the point where instantaneous drying is an actuality. Turbulaire Dryers are available in various sizes conforming to the character of the product to be dried and volume to be handled. With a Turbulaire, spray dried products having uniform physical and chemical characteristics are possible.

Western Precipitation Company, 1025 West Ninth Street, Los Angeles, Calif. • Precipitation Company of Canada, Ltd., Dominion Square Building, Montreal

Branches or Representatives in Principal Cities

**TURBULAIRE**  
\*TUR-BUL-AIRE  
**SPRAY DRYERS**

Above is shown the 3-stage rotary Atomiser.

PIONEERS IN DUST AND FUME CONTROL

When inquiring specify CEP3435 — see information request blank, pgs. 24-25

## WHITNEY CHAINS

### For Top Machine-Capacity

Full power is delivered to the job... without slippage... by Whitney Roller and Silent Chains. Every chain is engineered to today's needs... and made of tough alloy steels... for strength, long life and overload capacity on high, medium and low-speed drives. Write for Catalogs.

The **WHITNEY CHAIN & MFG. COMPANY**  
Hartford Conn.



WHITNEY ROLLER CHAINS • SILENT CHAINS • CONVEYOR CHAINS • SPROCKETS • COUPLINGS

When inquiring specify CEP3436 — see information request blank, pgs. 24-25

## A new answer for your hot water problems



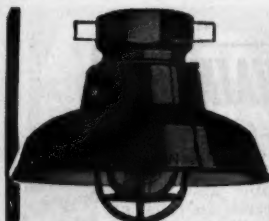
THERE is nothing new about the design and operation of the new Johnson Steel "Instant" Heater. It has the same simple, sturdy construction that made the original Johnson Copper Tube Heater the simplest and easiest way to heat water with steam. It hooks right up to your high pressure steam line—needs no reducers.

The big news about this new Johnson Heater is its all steel construction, which offers two important benefits—lower cost and prompt delivery. By designing this heater to avoid use of hard-to-get materials, Johnson is prepared to ship you an "Instant" Heater right now.

Write for comprehensive bulletin showing sizes and capacities.

Product of The Johnson Corporation  
826 WOOD ST., THREE RIVERS, MICHIGAN

When inquiring specify CEP3437—see information request blank, pgs. 24-25



CEILING REFLECTOR TYPE

The  
**REAL ANSWER**  
FOR "HEAVY-DUTY"  
"WATER-TIGHT"  
LIGHTING FIXTURES

# VAPOLETS

CEILING PENDANT TYPE



Benjamin Industrial Lighting "VAPOLETS" fulfill all requirements for indoor and outdoor locations where fixtures are subject to damaging effects of vapor, smoke, dust, moisture, corrosive fumes and rough handling. "VAPOLETS" are listed by Underwriters' Laboratories as Vapor Proof. Once installed, they give years of trouble-free service — and save on maintenance costs. Facts about Benjamin "VAPOLETS" are found in Catalog 26. Benjamin Electric Mfg. Co., Dept. LL, Des Plaines, Illinois.

FREE LIGHTING HANDBOOK  
Contains helpful information on  
lighting equipment. Write for  
Catalog E-26.

# BENJAMIN

Distributed Exclusively Through Electrical Wholesalers.

When inquiring specify CEP3438—see information request blank, pgs. 24-25

## PRODUCTION

### Electric Immersion Booster Heater

No temperature gradient is set up between heater and materials, thus no disintegration

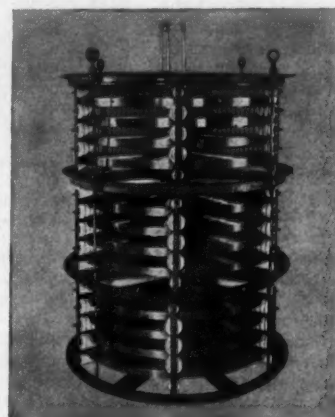
Uses—For maintaining and increasing temperatures of a wide range of materials in such cases where coating and saturating processes involve the use of heated asphalts, oils, paraffins, waxes, resins, creosote, varnishes, insulating varnishes, etc. and where it is necessary to increase or maintain temperature of material by applying heat to the line between storage tank and container where processing occurs.

Features—Temperature is maintained uniformly by means of automatic controls, either thermostat or pyrometer with thermocouple. Only two simple connections are needed for connecting heater to electric current. Due to large surface area of heating elements, and design being adapted for operation at very low watt density per unit of heat transfer surface, no temperature gradient is set up between heater and material. This prevents disintegration.

Description—Booster heater consists of spirally coiled heater strips arranged to form a compact unit. Heater is installed in a sealed tank built in the pipe line between storage vessel and coating or saturating tank. In operation, the "bare" electric coils are immersed in the material to be heated. In this manner, a direct thermal contact is established, insuring practically all the heat generated being transferred to the material. Heaters can be furnished in numerous sizes and heat capacities according to customer specifications.

H. O. SWOBODA, INC., Dept. CEP, 133 Thirteenth St., New Brighton, Pa.

When inquiring specify CEP3439—see information request blank, pgs. 24-25



ELECTRIC IMMERSION heater prevents disintegration

### Synthetic Detergent, Aqueous Paste

Offers improved cleansing and emulsifying properties; faster and more complete rinsing

Uses—Has wide field of usefulness in general cleaning compounds such as car washes, floor and wall cleaners, rug shampoos, marble cleaning compounds, etc.

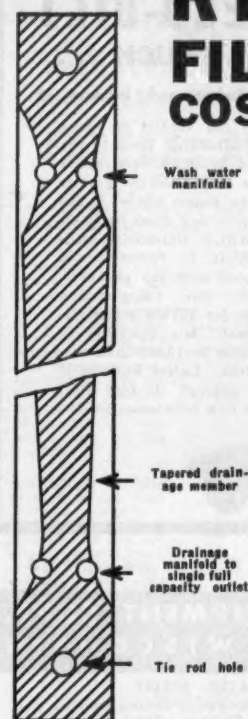
Description—Material is known as Triton 720 and is described as "an aqueous paste of a sulfonated ether salt." Maker states that the detergent has excellent film removing properties, good stability and rinsability. Very low concentration of material in various cleaning compounds improved cleansing and emulsifying properties and gave faster and more complete rinsing. New book on Triton 720 is available on request.

RHOM & HAAS CO., Washington Sq., Philadelphia, Pa.

When inquiring specify CEP3440—see information request blank, pgs. 24-25

If you are a responsible process executive CHEMICAL EQUIPMENT PREVIEW will be sent to you personally if you request the publishers to do so . . . there will be No Charge. See request slip between pages 24 and 25.

## REDUCE FILTRATION COSTS with the thoroughly tried FREEFLOW\* FILTER PLATE



Note the tapered drainage channel which removes the bottleneck existing in uniformly deep channels. Note the protected drainage manifold. Deflection of the cloth at that point will not cause restriction to flow.

Note the location of the wash water manifolds. They distribute the water evenly and rapidly over the entire plate.

Try this plate and you will note a big improvement. Materials of construction include Bakelite and wood of any desired kind. Sizes to fit all standard presses.

FILTER MEDIA CORP.  
Irvington-on-Hudson, New York  
Chicago Salt Lake City

9-FM-3

When inquiring specify CEP3441—see information request blank, pgs. 24-25



## DON'T TAKE CHANCES WITH ACID CORROSION

With new equipment and replacements equally hard to obtain, it is more important than ever to obtain equipment that will give you the longest possible life for the service involved.

Continuous improvement in Pfaudler silica base enamels as well as their application to steel has enabled us to offer designs in sizes and at pressures heretofore thought impossible.

The product for which the Rotary Dryer Shell above is being used must be kept free of dissolved metal. The smooth, glossy surface reduces adhesion of chemical materials and makes cleaning far easier and much more economical.

May we suggest that you check over your processing problems that involve acid corrosion? Then get in touch with our engineering department. Have your Catalog No. 792?

THE PFAUDLER CO. Executive Offices: Rochester, N. Y. Factories: Rochester, N. Y., and Elyria, O. Branch Offices: New York, Boston, Philadelphia, Chicago, Cincinnati. Pfaudler Sales Co., San Francisco and Los Angeles. Representatives in principal cities.

# PFAUDLER

When inquiring specify CEP3442—see information request blank, pgs. 24-25

CHEMICAL EQUIPMENT PREVIEW



## "saved 42% in Welding labor costs"



Records on file show labor savings ranging from 25% to 50% and rod savings of 5% to 7% through the use of

## Ransome POSITIONERS

WRITE FOR BULLETIN

Industrial Division

**RANSOME CONCRETE MACHINERY CO.**  
DUNELLEN, NEW JERSEY

When inquiring specify CEP3443 — see information request blank, pgs. 24-25



only

**\$79.50**

## CAMERON GLASS ELECTRODE pH METER — COMPLETE

Here is lowest cost pH meter available — proven reliability — portable — rugged — fast — accurate — requires no experience to operate — *only two adjustments.*

The scale of meter is direct reading from 1 to 11 pH. Additional readings between 0.0 and 1.0 pH and 11 and 14 pH made by simple adjustment of meter. Accuracy throughout entire range 0.1 pH.

Fully guaranteed. Only \$79.50.

**E. H. SARGENT & COMPANY**  
133-165 E. Superior St. Chicago, Ill.

When inquiring specify CEP3444 — see information request blank, pgs. 24-25

## PRODUCTION

### Explosive Rivets Speed Production

*With rivets in place, one workman can install them at rate of 15 to 20 rivets per minute*



EXPLOSIVE RIVETS . . . one man sets 15 to 20 per minute

to 20 per minute. Finely controlled explosive charge permits expansion effects to be held safely within limits of 20/1000th of an inch. Rivets are installed in the "age-hardened" condition and do not require refrigeration after heat treatment.

**Operation**—A high explosive is secreted in cavity at end of rivet shank; due to nature of explosive, no wadding — no confinement — is required. Heat is applied to rivet head by special electric gun which detonates the charge; time of installation is 1½ to 2½ seconds from time iron is applied until expansion takes place. The explosion expands the charged end of shank, thus forming "blind" head and setting the rivet.

**Description**—Rivets weigh about one-fourth as much as generally used "blind" fasteners of mechanical design. Riveting gun, or iron, weighs less than five pounds. Prior to installation, rivet is similar to solid rivet except for cavity which is concentric with shank and open at shank end. Rivets now being made are of an aluminum alloy. Of varying diameters and sizes, they are of the modified brazier head and countersunk types, the latter permitting flush riveting.

E. I. duPONT de NEMOURS & CO., Dept. CEP, Wilmington, Del.

When inquiring specify CEP3445 — see information request blank, pgs. 24-25

### Nine Inch Precision "Workshop" Lathe

Illustrated catalog of 56-pages-and-cover show two new models of these 9" lathes. Also included are all attachments, tools and accessories for use with lathes shown. Many large photos are used with specification tables to give complete information about the lathes. Catalog 50-B is available on request.

SOUTH BEND LATHE CO., Dept. CEP, 280 East Madison St., South Bend, Ind.

When inquiring specify CEP3446 — see information request blank, pgs. 24-25

### High Speed Photo-Electric Pyrometers

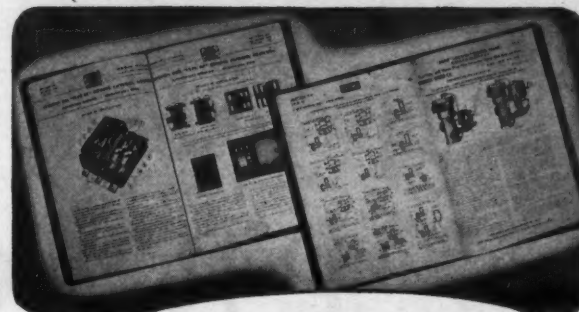
Thirty-two-page-and-cover catalog show large line of pyrometers and electric thermometers. Large detailed photos show major features of various models. Complete details are given, many in tabular form, for each model. Supplementary catalog gives prices for instruments and accessories. Catalog No. 1101F is available on request.

C. J. TAGLIABUE MFG. CO., Dept. CEP, Park & Nostrand Aves., Brooklyn, N. Y.

When inquiring specify CEP3447 — see information request blank, pgs. 24-25

**Uses**—Of particular importance to the aircraft industry, these new type rivets also have widespread applications in other lines of industry.

**Features** — Rivets are safe and can be used without fear of serious injury; will not detonate in mass and are quite insensitive to shock and friction. Installing rivets is all done from one side, forming a "blind" head and setting the rivet. Once they are in place, these rivets may be installed by one workman at rate of 15



*These new catalogs may help YOU solve your*  
**ELECTRIC CONTROL PROBLEMS**



*If you*

### use SWITCHES

Then you will want Catalog 547 — an eighty-page catalog on automatic transfer switches, remote control switches, contactors and relays — covers what they are, why they are used, their features, capacities, construction, and operation.

*If you*

### use VALVES

Send for Catalog 147 — a seventy-page catalog on shut-off valves, safety shut-off and trip valves, three-way and four-way pilot valves for steam, air, liquids, and gases—a manual on sizes, types, capacities, pressure ranges, adjustment, operation, and maintenance.



Here are two new catalogs that should interest every engineer concerned with automatic regulation or control, for each contains a wealth of useful information on more than fifty types of solenoid-operated valves and on as many electrically operated switches.

The contents of these catalogs are not limited to mere product description. Such sections as those on application, arrangements, connections, and installation make both catalogs handbooks of practical data for the practical engineer.

Whether you manufacture chemicals, dyestuffs, explosives, petroleum products, paper or textiles, if you are interested in producing a better product at a lower cost, then send for one or both of these catalogs. There's no cost, no obligation—simply ask for Catalog 147 (valves) or Catalog 547 (switches).

## Automatic Switch Co.

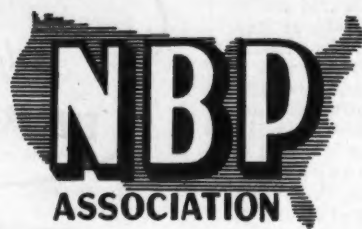
47 EAST 11th STREET, NEW YORK, N. Y.

TELL US WHAT YOU WISH TO ACCOMPLISH

8-AN-1

When inquiring specify CEP3448 — see information request blank, pgs. 24-25

# STANDARDS of PRACTICE



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**1 EDITORIAL POLICY:** This publication conceives it its duty to publish editorial material that will extend the knowledge of its readers, expand their business, increase their ability to serve others or make possible their advancement in any direction. No editorial material will be published in consideration of payment either directly or indirectly.

**2 CIRCULATION:** Readers of this magazine are selected on the basis of their importance as buying or influencing factors within the field which it covers. Mailing lists will be constantly supervised for accuracy. Circulation records will be periodically audited and certified copies of these audits will be available at all times.

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## CHEMICAL EQUIPMENT PREVIEW

Member NATIONAL BUSINESS PAPERS ASSOCIATION

### PRODUCTION

#### Wood Lined Flanged Pipe

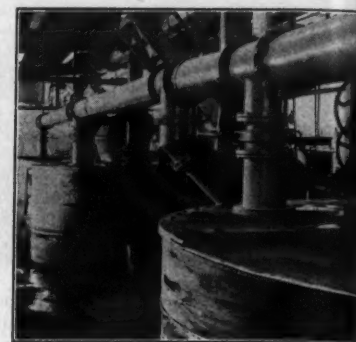
*Light weight, corrosion and wear resistant, no leakage, easily installed*

**Uses**—For conveying acidulous liquids, and liquids or solutions which must be kept clean. Now has wide application in paper and pulp mills, rayon, chemical, textile, mining, etc.

**Features**—Corrosion eliminated internally by wood lining, and greatly retarded externally by alloy Toncan iron with heavy coat of corrosion resistant paint. Smooth interior offers low friction.

Light weight, easily handled, and field cutting to length and flanging is simple operation. Leakproof as all flanged tubes and fittings before lining are subjected to 250 lbs. water pressure. Wood lining eliminates rust and metal specks mixing with flow.

**Description**—Pipe consists of 14 to 10 gauge Toncan copper molybdenum iron flanged tube with clear fir or redwood lining one inch or more in thickness. Toncan tube is longitudinally welded, 250 lb. water pressure



WOOD LINED PIPE and fittings



tested and painted both inside and outside. Staves are moulded to perfect pipe circles on both inside and outside with tongue and groove on lateral edges, and applied to inside of Toncan tube under heavy pressure to provide a very tight lining. Standard pipe lengths are 10 and 20 feet, but no extra charge for special lengths under 20 ft. Fittings of various types are available such as 90 deg. elbow, 45 deg. elbow, tees, crosses, lateral reducers, etc.

MICHIGAN PIPE CO., Dept. CEP, 5th Floor, Phoenix Block, Bay City, Michigan.

When inquiring specify CEP3449 — see information request blank, pgs. 24-25

#### Chains: Sling, Crane, Coil, Loading, Log

Series of bulletins bound in catalog form are used to illustrate and describe many types and grades of chain. One section covers sling and crane chains; another section features coil chain, high carbon electric loading chain, log chain, etc. Data are supplied relating to "proof tests," chain terminology and tables illustrating safe loads for chains and slings for different variations in the angle of load. 28-page, 8½" x 11" catalog is available on request.

S. G. TAYLOR CHAIN CO., Dept. CEP, Hammond, Ind.

When inquiring specify CEP3450 — see information request blank, pgs. 24-25

## CHEMICAL EQUIPMENT PREVIEW



## EQUIPMENT FOR PRODUCTION

### Insulating Fire Brick

1600 to 2600 deg. F., light weight, strong, and with high insulating value



INSULATING FIRE BRICK . . . 1600 to 2600 deg. F.

**Uses**—Designed for direct exposure in a wide variety of furnaces, ovens and other heated equipment, except where subject to slag action or mechanical abuse.

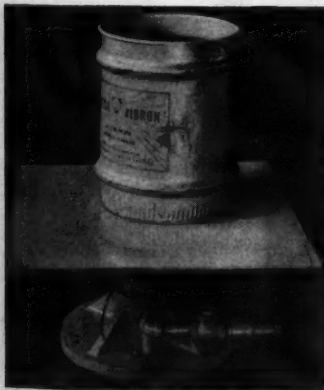
**Description**—Fire brick are produced from plastic refractory clay and an organic filler which, upon being burnt out during manufacturing process, gives a uniform, controlled pore structure to each of various types, and imparts characteristics of light weight, strength, and high insulating value. The brick are furnished in four temperature limits: JM-16, for exposed service to 1600 deg. F. and for back-up service to 2000 deg. F.; JM-20, JM-23, and JM-26 for exposed or back-up temperatures to 2000, 2300 and 2600 deg. F., respectively.

JOHNS-MANVILLE, Dept. CEP, 22 East 40th St., New York, N. Y.

When inquiring specify CEP3451 — see information request blank, pgs. 24-25

### Water-Powered Hydraulic Packer

Handles light, fluffy materials; effects dense compaction in drums



WATER-POWERED PACKER for light materials

**Uses**—For effecting a dense compaction or settlement of materials in drums, barrels, containers, etc., particularly of light, fine powdery materials which have been most difficult to pack.

**Description**—Jolter or packer is made up of a deck plate on which the barrel, drum or other container to be packed is placed, and a hydraulically operated cylinder lifts the table and drops it with a sharp jolt approxi-

mately once per second. Speed of jolts per minute as well as overall lift are controllable by a hand valve in the water line. Small amount of water is required for operation at water pressure of about 50 lbs. per sq. in. Where lower pressures only are available, a small electric motor driven pump with a closed circuit can be supplied to operate the equipment.

SYNTRON COMPANY, Dept. CEP, 110 Lexington Ave., Homer City, Pa.

When inquiring specify CEP3452 — see information request blank, pgs. 24-25

### Stainless Steel High Pressure Pumps

Has capacity of 2.5 g.p.h. against discharge pressure of 10,000 lbs. per sq. in.

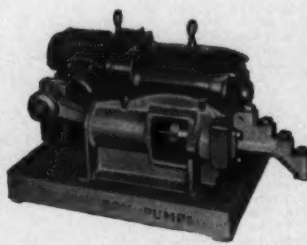
**Uses**—Specially-built high pressure pump, for handling extreme pressures, was built to handle ethylene glycol.

**Features**—Step-type valve, with its readily accessible double-ball checks, automatically discharges all air and small particles of dirt, prevents air-binding and wire drawing and gives pump maximum efficiency of displacement and high capacity for low power expenditure.

**Description**—Entire valve construction of this pump, including chamber, piston, valve-seats and ball-checks, is of stainless steel. This construction provides both corrosion resistance and necessary strength for high pressures. Combination angle gear drive, using double reduction gearing for maximum efficiency in use of power on high pressure service. Motor is 2 H.P., piston 7/16", maximum stroke 3", 36 strokes per minute.

MILTON ROY PUMPS, Dept. CEP, 1380 East Mermaid Ave., Philadelphia, Pa.

When inquiring specify CEP3453 — see information request blank, pgs. 24-25



HIGH PRESSURE PUMP . . . stainless steel

### Respirator Goggle

Nose shield provides extra protection from splashes

**Uses**—New goggle has been designed to provide complete eyesight protection for workmen engaged in operations where respirators must be used, but where the hazard is not great enough to require a complete helmet.

**Description**—Goggles are available with either plano or prescription hardened lenses. Metal frame is cut away in nasal portion so that it fits close to face yet leaves room for respirator. Special lens shape was developed at instigation of large paint manufacturer using respirators. Construction provides light weight, rigid frame supplied in variety of sizes. Goggle is offered with wire mesh or with either clear or green acetate nose and side shields.

BAUSCH & LOMB OPTICAL CO., Dept. CEP, Rochester, N. Y.

When inquiring specify CEP3454 — see information request blank, pgs. 24-25



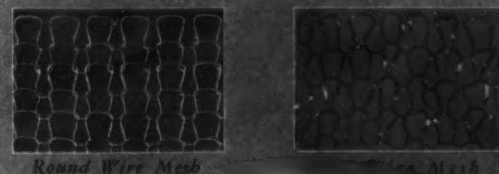
RESPIRATOR GOGGLE has nose shield

### Compact and Sturdy Float Switch

Four-page folder contains details of these float switches. Specifications are given for several types, and one page shows dimensions and installation diagrams. List prices are shown. Bulletin J-1 is available on request.

AUTOMATIC CONTROL CO., Dept. CEP, 1005 University Ave., St. Paul, Minn.

When inquiring specify CEP3455 — see information request blank, pgs. 24-25



New Type of Wire Mesh shows Greater Flexibility

### Metal Textile introduces Round Wire Mesh in knitted links for greater resistance to strain

Now Metal Textile produces not only a flat but a round wire mesh that combines considerable tensile strength with light weight per unit of area. For example, a bag made of .011 galvanized steel Knit Wire Mesh, four loops to the inch, weighs but 1 1/2 oz. per square foot, yet holds 500 lbs. static load. Knit Wire Mesh consists of a series of loops which hinge on each other—creating a flexible and resilient fabric.

Unlike woven wire, Knit Wire Mesh is not limited by the diameter of the wire to the size of openings. Knit Wire Mesh of four openings to the inch can be produced from .0045" diameter wire, either round or flat, and still have a well integrated, non-slide fabric.

A great variety of manipulations are available. Knit Wire Mesh can be crimped and still remain highly flexible, so that circular units, as used for carburetor filters, can be readily wound from it. It can be produced in the form of a cord — by rolling the mesh and elongating the loops. Or the mesh may be stretched to its elastic limit to form a highly flexible ribbon or tape. Excellent fatigue properties are then indicated because the loops hinge on each other instead of straining the wire itself.

Due to its high degree of resilience this mesh is used by manufacturers of laundry and dry cleaning pads for pressing, ironing, or where resiliency is required in the presence of heat or chemicals. Knit Wire Mesh, obtainable in heat and chemical resistant alloys, is also successfully used in air cleaning, filtering, high temperature gaskets and valve packing. Comes in a variety of widths from 24" to 1" double thickness — and in continuous tubes or sleeves of indefinite length.

The Metal Textile Corporation offers engineering assistance in finding the correct size and style of mesh for specific applications. Write for details.

### Metal Textile Corporation

Orange, New Jersey

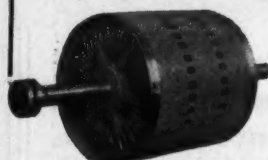
When inquiring specify CEP3456 — see information request blank, pgs. 24-25

**a new  
Complete  
Reference  
CATALOG on**

**Stearns  
MAGNETIC  
PULLEYS**

For protection, concentration, reclamation and purification, magnetic pulleys are most widely used due to their flexible size range, ready adaptability to conveying systems, automatic and economical operation and other features.

The Stearns aircooled (for more power) Magnetic Pulley is the result of many years intimate association with problems in all industries—of pioneering advancement in design and construction. There is a reason for the popular acceptance of Stearns pulleys. Get the facts. Write for Bulletin 302.



The Stearns Powerful  
Air-Cooled Magnetic Pulley

When inquiring specify CEP3457—see information request blank, pgs. 24-25

**SEPARATORS  
CLUTCHES  
BRAKES  
DRUMS  
MAGNETS**

**STEARNS MAGNETIC  
MFG. CO.**

642 S. 28th St., Milwaukee, Wis.

**HERE'S LOW COST FILTRATION**



**SWENSON  
Rotary-Drum  
VACUUM  
FILTER**

The large drum sections of the Swenson continuous type, rotary-drum filter give a high rate of filtration and therefore maximum capacity per unit of first cost. Automatic operation and careful selection and design of wearing parts assure low operating and maintenance charges. Write for Bulletin F-100. Swenson Evaporator Co. (Div. of Whiting Corp.), 15667 Lathrop Ave., Harvey, Ill.

**SWENSON**

EVAPORATORS • FILTERS • CRYSTALLIZERS

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**Electrically Energized "FerroFilter"**

8-page, pocket-size folders describes in detail these filters for removing fine steel particles too small to be caught by screens, filters, etc. Several photos show details of product with applications in various industries. Bulletin No. 20 available on request.

S. G. FRANTZ CO., Dept. CEP, 161 Grand St., New York, N. Y.

When inquiring specify CEP3459—see information request blank, pgs. 24-25

**Tank Truck Meters**

8-page bulletin gives complete technical data with various pressure drop charts, dimension tables, etc., for tank truck meters. Several charts and photos show major details of meters. Specifications are complete. Bulletin No. 127 is available on request.

SMITH METER CO., Dept. CEP, 5743 Smithway St., Los Angeles, Calif.

When inquiring specify CEP3460—see information request blank, pgs. 24-25

**New Powder Stops Metallic Fires**

Stop combustion of magnesium, sodium, potassium, aluminum, zinc and incendiary bombs

**Uses**—Recently developed extinguishing agent offers protection against metallic fires such as magnesium, sodium, potassium, aluminum, zinc and incendiary bombs.

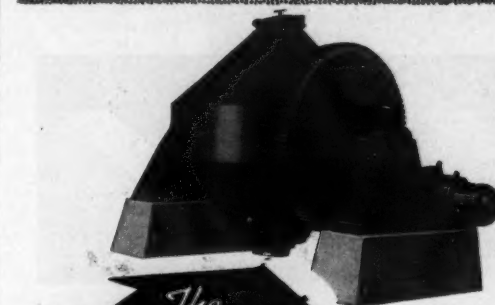
**Features**—Powder is non-abrasive and can be freely used around machinery.

**Description**—This powder is a dry, inert compound used to stop combustion on metallic fires where usual substances such as talc, soapstone and sand would have little effect. The powder also contains a material which, when heated, forms a heavy, air-excluding, fire-smothering vapor. The powder is applied to the fire by spreading it with a scoop or shovel. Material is known as Pyrene G-1 Fire Extinguishing Agent.

PYRENE MFG. CO., Dept. CEP, Newark, N. J.

When inquiring specify CEP3461—see information request blank, pgs. 24-25

**PERFECTLY BLENDED  
DRY PRODUCTS  
IN RECORD TIME!**

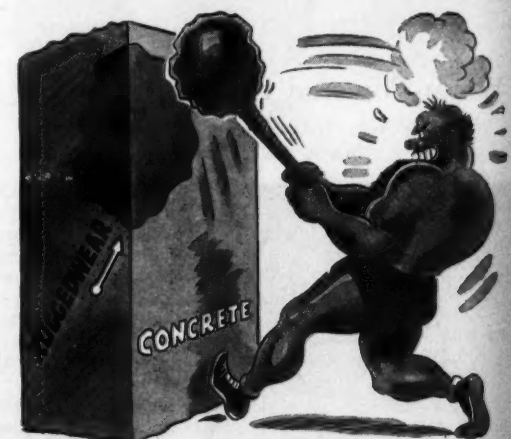


*The*  
**PATTERSON  
Conical  
DRY BLENDER**

Absolutely uniform blending, in 200 revolutions or less! Unique design gives unequalled results—in speed, quality, efficiency and economy. Investigate!

**THE PATTERSON FOUNDRY & MACHINE CO.**  
EAST LIVERPOOL, OHIO, U.S.A.

When inquiring specify CEP3462—see information request blank, pgs. 24-25



**TOUGH REPAIR for CONCRETE**

Avoid accidents! Prevent costly delays. Repair holes, cracks, broken places in concrete floors, or resurface an entire area with the durable **RUGGEDWEAR RESURFACER**. No chopping or chipping required. Merely sweep out spot to be repaired—mix the material—trowel it on. Holds solid and tight right up to irregular edge of old concrete. Used indoors or out. Dries fast. Low in cost.

Request 74-page "Building Maintenance Handbook"

**MAKE THIS TEST!**

**FLEXROCK COMPANY**  
2311 Manning St., Philadelphia, Penna.  
Please send me complete RUGGEDWEAR information  
... details of FREE TRIAL OFFER. No obligation.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
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**CHEMICAL EQUIPMENT PREVIEW**



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## for Busy Men WITH PROCUREMENT AND PRODUCTION PROBLEMS

### AT THIS YEAR'S CHEMICAL INDUSTRIES EXPOSITION

DECEMBER 1-6, 1941

The largest number of exhibits in more than a decade—chemical processing equipment, appliances, instruments, chemicals and chemical products, materials and supplies.

The most varied, and helpful group of exhibits ever staged for the benefit of the chemical process and related industries.

Exhibits staged by leading manufacturers who, by exhibiting, show that they are exerting their utmost efforts to serve industry.

Think what that means to you as a help in solving procurement and production problems!



Never before has the Exposition of Chemical Industries been able to do as much as it can this year to help busy men who are worried by procurement and production problems. By spending a few days at this year's Chemical Exposition, you can accomplish more than at any other time or place in the world—including your own office.

Three great floors of Grand Central Palace full of exhibits by the very top strata of suppliers—each of them devoting a week to the service of the chemical industries when such service is so important—each making it easy for you to see the actual products displayed and demonstrated—each providing chemical and engineering specialists eager to welcome consultation and discussion.

Come to the Chemical Exposition—bring your associates. See that all your key men attend. It's one of the most important things you can do at this time.



## 18th EXPOSITION OF CHEMICAL INDUSTRIES

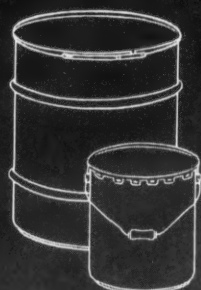
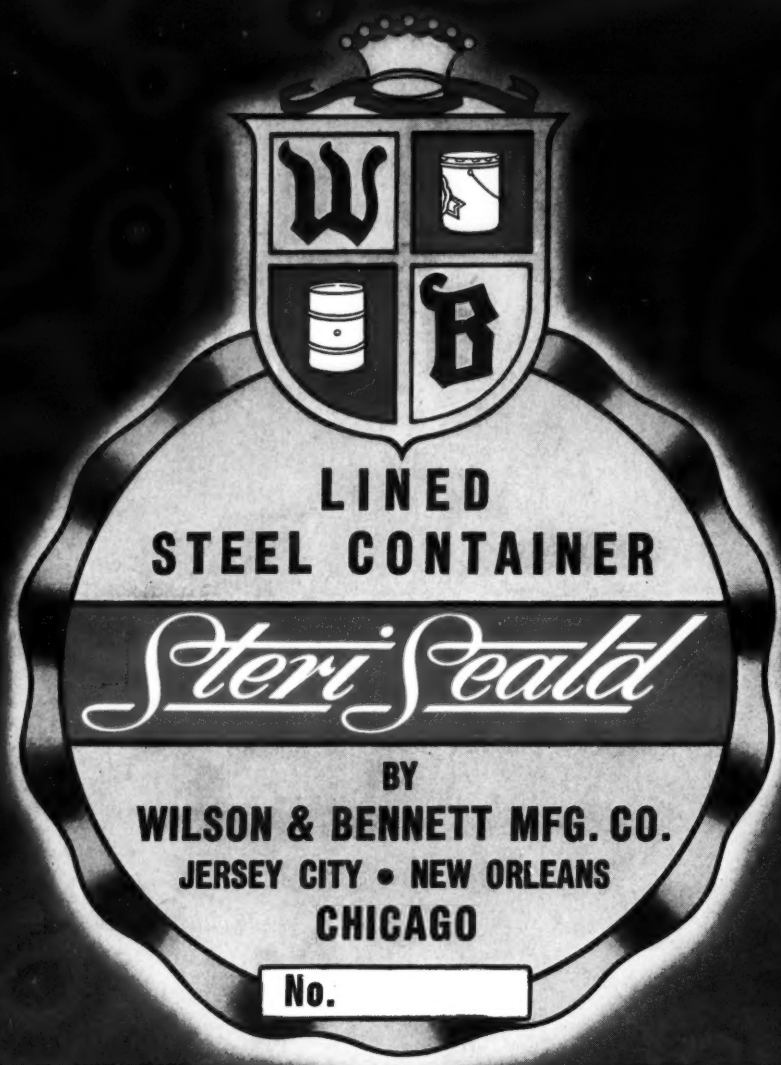
GRAND CENTRAL PALACE, NEW YORK, DEC. 1-6, 1941

Managed by International Exposition Co.

DEDICATED TO SPEEDING UP AMERICA'S INDUSTRY FOR THE DEFENSE PROGRAM

When inquiring specify CEP3464 . . . see information request blank, pgs. 24-25

# *Steri Seald*



*\*Symbol of the  
finest in lined  
steel containers*

**S**TERI-SEALD is more than the name of a modern steel container... it is the symbol of a service. It means that each container bearing this label is lined with a laboratory-tested protective coating especially developed to safeguard the specific product it carries. It is our pledge and your guarantee of the most complete protection that modern research can provide.

To users of products shipped in these modern containers the Steri-Seald label means that the manufacturer has reached out for the best that modern science has to offer in safeguarding the purity and quality of chemical products. Any product will more readily win consumer acceptance because of this better protection; certainly every fine product deserves it.

**WILSON & BENNETT MANUFACTURING CO., CHICAGO, ILL.**  
Subsidiary of Inland Steel Co.

Plants at Chicago, Jersey City and New Orleans • Warehouses in all principal cities

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EQU